CHAPTER 35

LIST OF EFFECTIVE TEMPORARY REVISIONS

FOLLOWING IS A COMPLETE LISTING OF ALL ACTIVE TEMPORARY REVISIONS (TR'S). TR'S NOT LISTED SHOULD BE REMOVED. THE ATA NUMBER, CONFIG CODE AND PAGE NUMBER IDENTIFIES THE PAGE PRECEDING THE TR.

TR NUMBER	ATA NUMBER	CONFIG CODE	PAGE NUMBER	TR DATE

NONE

CHAPTER 35

OXYGEN

LIST OF EFFECTIVE PAGES

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CHAPTER 35

OXYGEN

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General Operation Controller - Passenger Oxygen Generator - Fixed Chemical Oxygen Latch - Oxygen Mask Door Mask - Passenger Oxygen Module Assembly - Oxygen, Lavatories, Cabin Attendants and Food Service Specialists Switch - Sequence Timer Oxygen Initiator			
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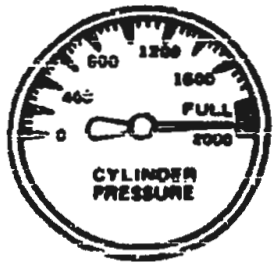
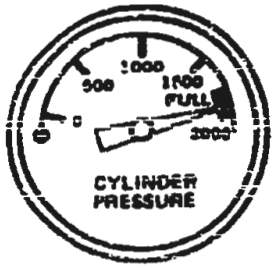
OXYGEN CONTENTS

CREW OXYGEN SUPPLY



(CREW OXYGEN CYLINDER)

CREW OXYGEN SUPPLY



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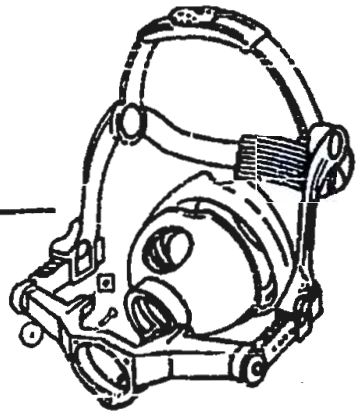
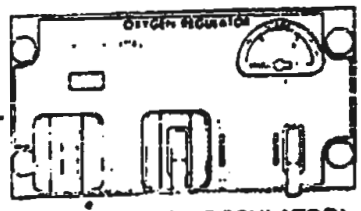
CREW OXYGEN SUPPLY



(CREW OXYGEN MASK)

CREW OXYGEN SUPPLY



(CREW OXYGEN REGULATOR)

TITLE CHAP/SEC
CREW OXYGEN SUPPLY 3511

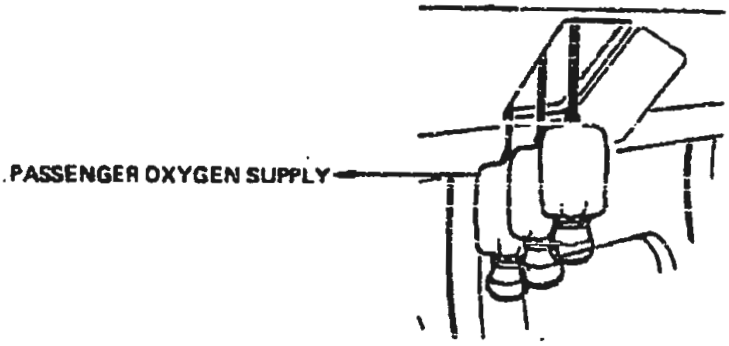
R EMERGENCY EQUIPMENT CONTENTS

R EFFECTIVITY: ALL

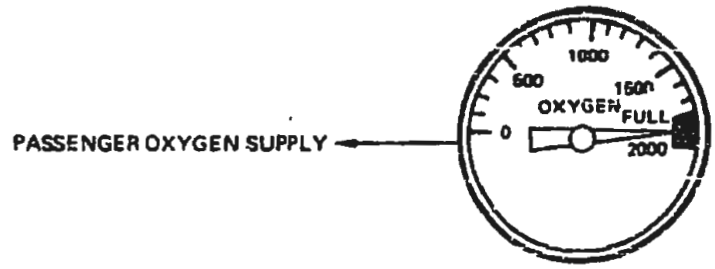
R

001B

OXYGEN CONTENTS



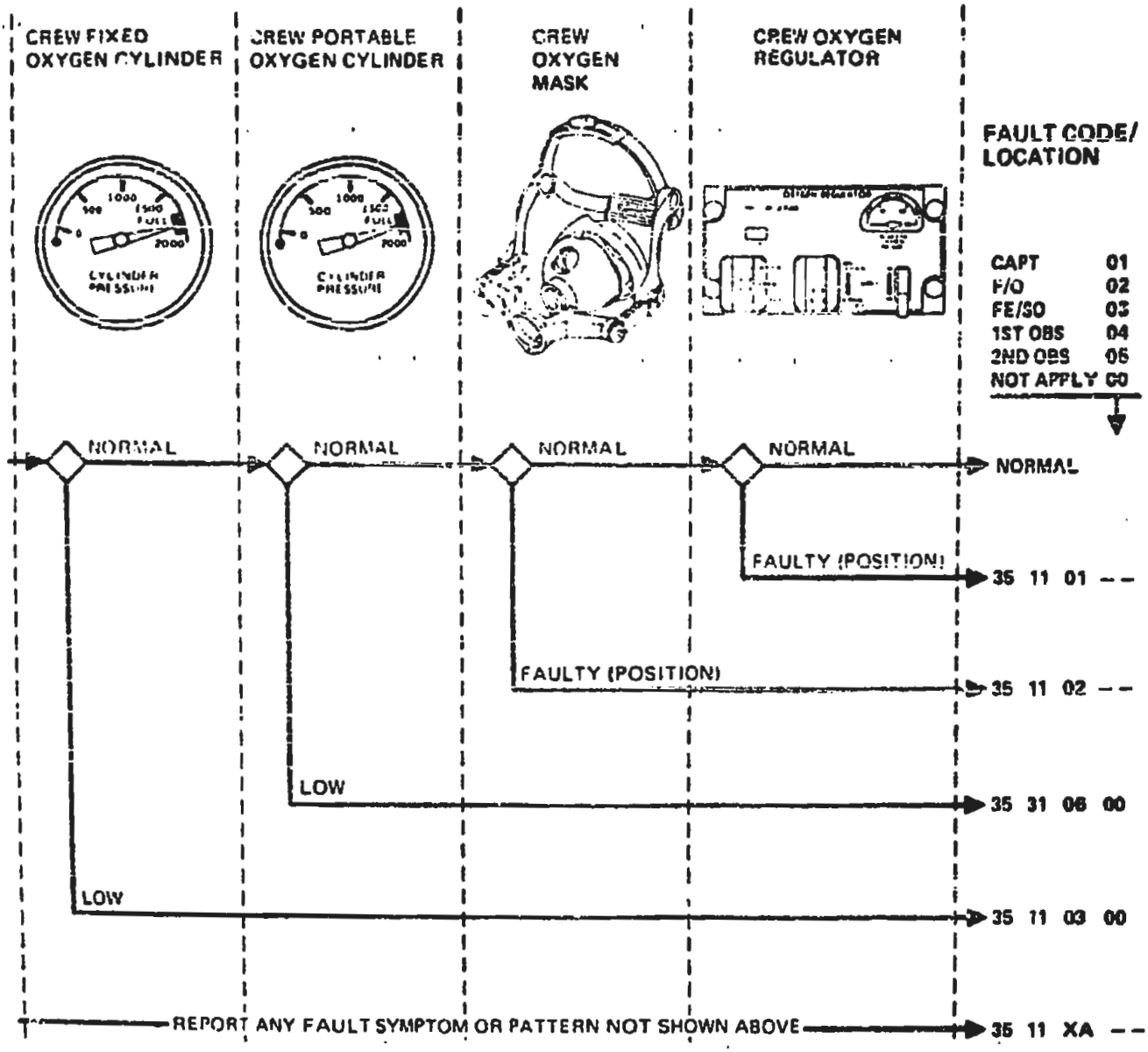
(PASSENGER OXYGEN MASKS)



(PASSENGER PORTABLE OXYGEN CYLINDER)

TITLE CHAP/SEC
PASSENGER OXYGEN SUPPLY..... 3521

M1-0000-35-5204



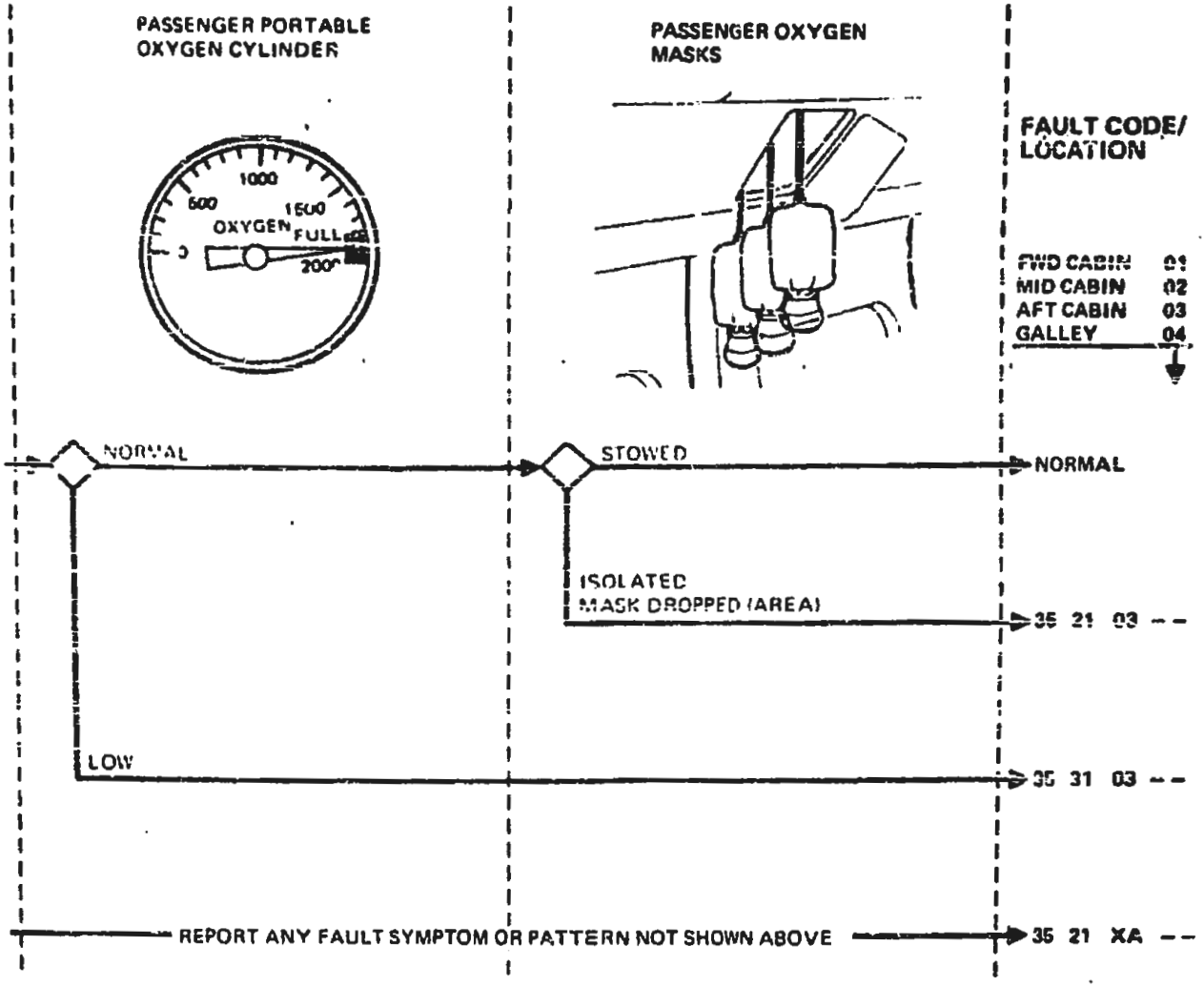
E31-0000-35-482

R Crew Oxygen Supply System - Fault Codes
Figure 1

R EFFECTIVITY: ALL

05CB

35-FAULT CODE DIAGRAM



R Cabin/Galley Oxygen Supply - Fault Codes
Figure 2

R EFFECTIVITY: ALL

0508

FAULT CODE INDEX
TABLE 1

	FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
	35 11 XA __	1. A Crew Oxygen Supply System fault was encountered by the crew which is not covered in the fault code diagram. (Ref. Fault Code diagram for flight crew actions.)
R		2. 35-11-00 Fig. 103 Block 1
	35 21 XA __	1. A Cabin/Galley Oxygen Supply fault was encountered by the crew which is not covered in the fault code diagram. (Ref. Fault Code diagram for flight crew actions.)
R		2. 35-21-00 Fig. 103, 104, 105 Block 1
	35 11 01 __	1. (01=Capt, 02=F/O, 03=FE/SO, 04=1st obs., 05=2nd obs.) faulty oxygen panel regulator.
		2. 35-11-02 (Replace regulator)
	35 11 02 __	1. (01=Capt, 02=F/O, 03=FE/SO, 04=1st obs., 05=2nd obs.) faulty oxygen mask.
		2. 35-11-02 (Replace mask)
	35 11 03 00	1. Crew stationary oxygen cylinder pressure low.
		2. 35-11-01 (Replace oxygen cylinder)
	35 21 01 00	1. NOT USED.
	35 21 02 00	1. NOT USED.
	35 21 03 __	1. (01=Fwd Cab, 02=Mid Cab, 03=Aft Cab, 04=Galy) isolated oxygen mask drop.
		2. 35-21-03 (Replace dropped mask)
	35 31 01 00	1. NOT USED.

FAULT CODE INDEX
TABLE 1

FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
35 31 02 00	1. NOT USED.
35 31 03 __	1. (01=Fwd Cab, 02=Mid Cab, 03=Aft Cab, 04=Galy) portable oxygen cylinder pressure low. 2. 35-31-00 (Replace oxygen cylinder)
35 31 04 00	1. NOT USED.
35 31 05 00	1. NOT USED.
35 31 06 00	1. Crew portable oxygen cylinder low. 2. 35-31-01 (Replace oxygen cylinders)

OXYGEN - DESCRIPTION AND OPERATION

1. General

Oxygen is available to the flight crew, cabin crew, and passengers from two independent systems. In addition to the fixed systems, portable oxygen units are installed throughout the cabin area and flight station for emergency and first aid utilization.

Flight crew sustaining oxygen is supplied from a gaseous oxygen cylinder installed vertically in the side console area aft and outboard of the First Officer (F/O). The three flight crew members and two observers are provided with a mask that is manifolded to the cylinder oxygen supply.

Cabin crew and passengers are provided with sustaining oxygen from chemical generators installed in passenger service modules (PSM), cabin attandant modules, and a module installed in each lavatory. One to four oxygen masks may be manifolded to the chemical oxygen generator depending on type of module and seating arrangement. The oxygen assembly containing the generator(s) and mask(s) is held in position in the PSM, attendant, and lavatory module by a latched spring-loaded door. System is activated automatically (generator fired, doors released, and masks dropped) in the event a decompression occurs or by pressing the MANUAL switch on the FE/SO PASSENGER OXYGEN panel.

CR Protective Breathing Equipment (PBE) is a hood device that
CR cockpit or cabin crew members can wear to protect themselves
CR from smoke and fumes and will provide them a breathable
CR atmosphere while fighting an inflight fire. The PBE is packed
CR in a metal box approximately 2 inches by 13 inches by 10 inches
CR in size and saftied in place to prevent unauthorized removal. A
CR number of these PBEs are located throughout the cockpit and
CR cabin area adjacent to most fire extinguishers (Ref. MM
CR 35-32-00).

CREW OXYGEN SYSTEM - DESCRIPTION AND OPERATION

1. General

The crew oxygen system provides supplemental breathing oxygen for the five crewmembers. It enables them to maintain sustained flight following cabin decompression. The system has one stationary oxygen cylinder with a slow-opening shutoff valve, a pressure reducer, and panel-mounted diluter demand oxygen regulators. Overboard discharge is provided for excessive oxygen cylinder pressure. An overboard discharge indicator provides external visual indication that maximum safe pressure in the oxygen cylinder has been exceeded (Ref. Fig. 1). An oxygen oronasal mask is provided at each crew station.

A compartment is provided at each crew station to stow the oxygen masks. The oxygen hose of each mask is coupled to the oxygen system outlet within each compartment.

A quick-disconnect coupling is provided to test system flow and pressure. A check valve prevents system flow from the coupling when not in use.

C The addition of smoke goggles provides complete respiratory and
C eye protection for each crewmember. One full-face, goggle type
C smoke mask is stowed in the cockpit of all TWA aircraft. This
C mask must be available for immediate use.

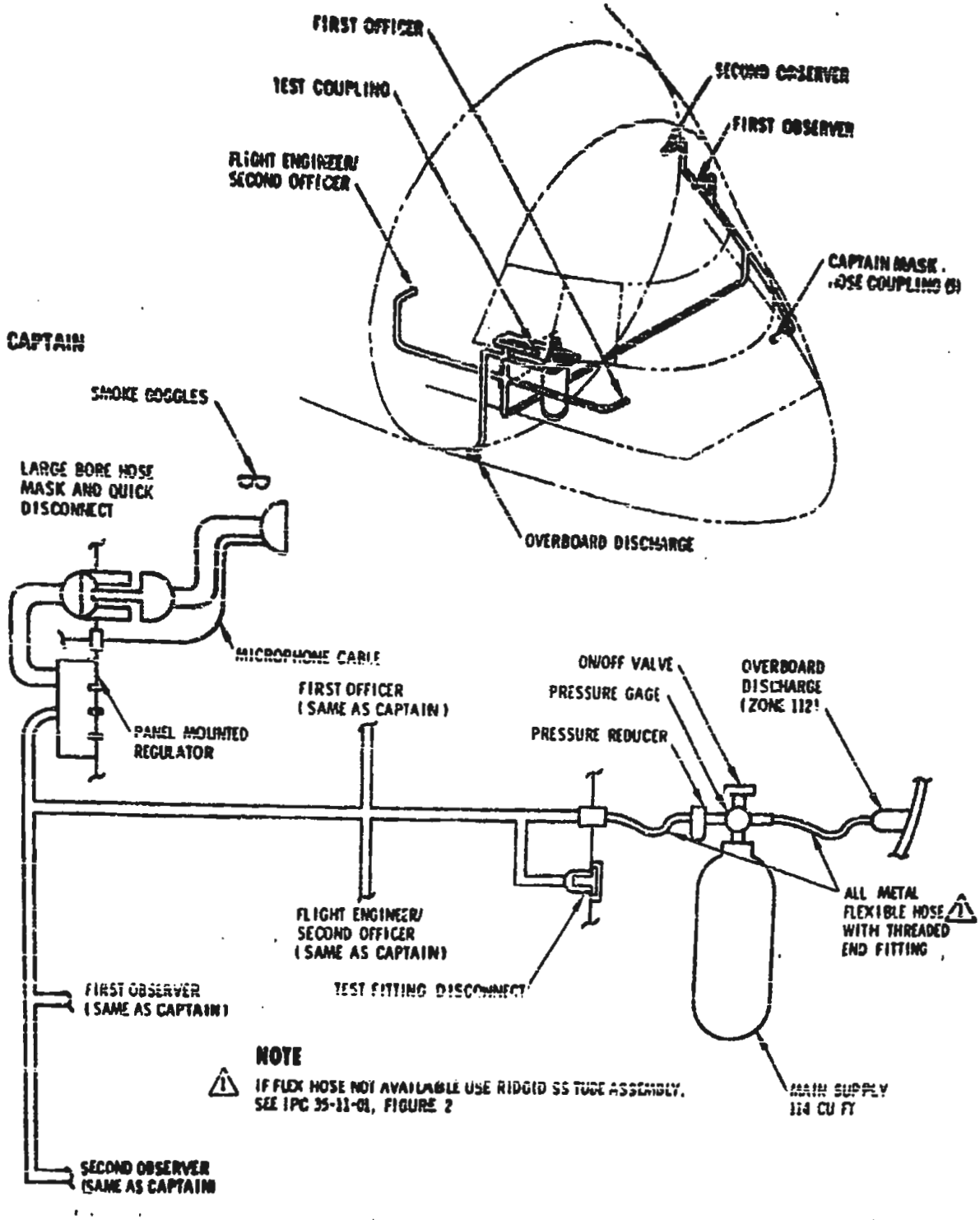
2. Operation

The oxygen cylinder valve is normally opened during the aircraft preflight check. This provides oxygen to each crewmember diluter demand oxygen regulator panel. If a hazardous atmosphere should develop, the flow of breathing oxygen to the crewmembers oronasal masks can be controlled by the individual oxygen regulators. Automatic and manual modes of operation are available to the crewmembers. Each crewmember can select 100-percent or diluted oxygen.

3. Crew Breathing Oxygen Cylinder

A. Description

The oxygen cylinder is installed in the flight station. It is mounted in a vertical attitude outboard and aft of the First Officer, zone 212. The cylinder contains 114 cubic
R feet of free oxygen compressed to 1800 ± 50 psig at 70
R degrees F. The cylinder incorporates a slow-opening shutoff



CR
CR

Crew Oxygen System Schematic Diagram
Figure 1

EFFECTIVITY: TW CONTROL NO. 473-548ML-005

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valve, pressure reducing assembly with output port, a pressure gage, and safety relief fitting. The pressure gage is provided to give continuous indication of oxygen pressure.

The relief fitting is line-connected to the overboard discharge port. If the pressure exceeds 2650 psig, the frangible disc in the relief fitting will rupture allowing oxygen to discharge overboard through the discharge port. This action blows out the green discharge indicator (Ref. Fig. 2).

B. Operation

Turning the slow-opening shutoff valve knob in the direction of the arrow allows oxygen to flow to the pressure reducer. Two and one-half to six turns are required to open the valve fully. The cylinder pressure is reduced by the pressure
R reducer to an outlet pressure of 50 to 90 psig.

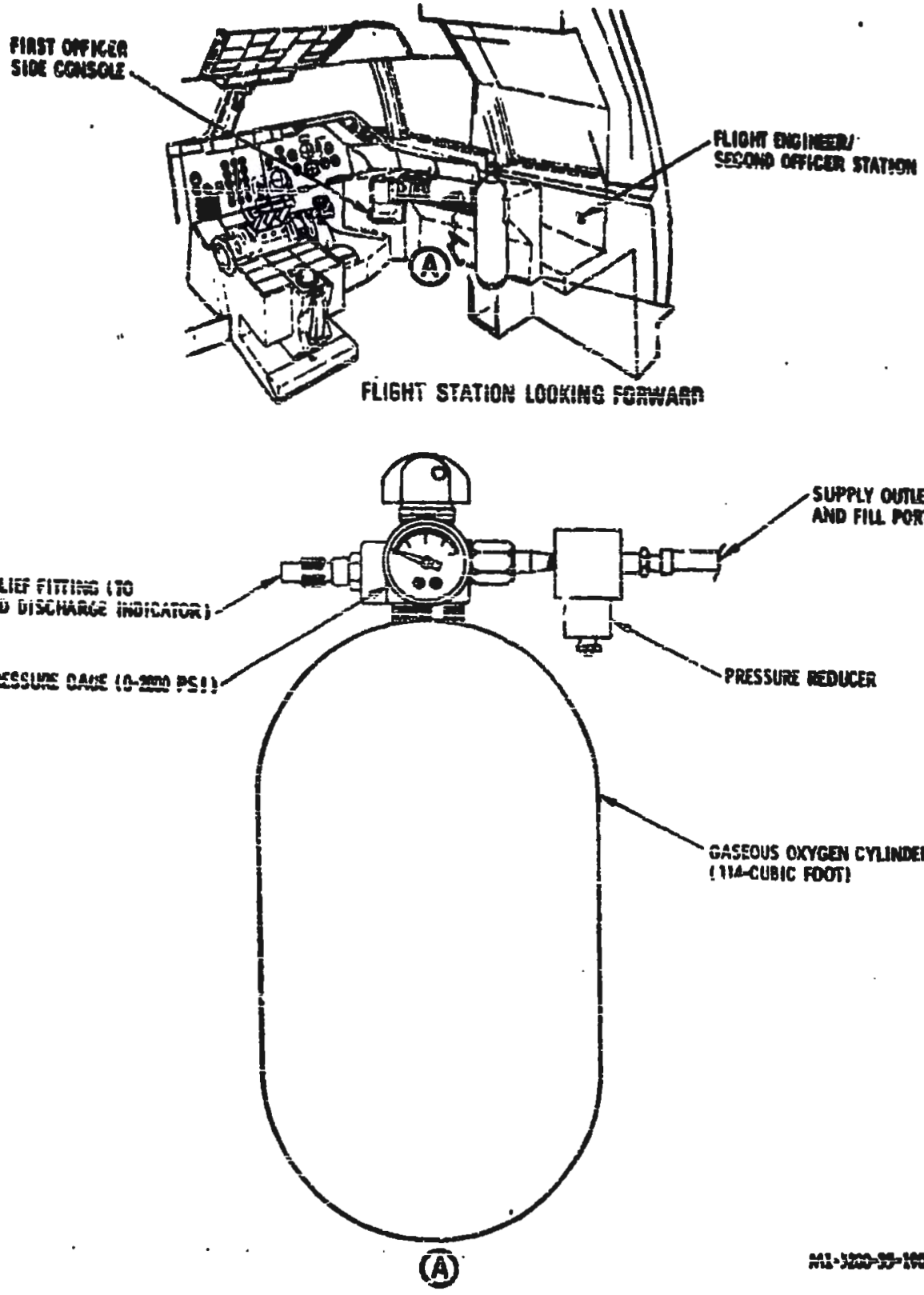
4. Panel-mounted Diluter Demand Oxygen Regulator

A. Description

A diluter demand oxygen regulator panel is mounted in each crew station. The regulator controls the flow of low-pressure oxygen to each crewmember mask. Three guarded toggle controls on the panel control its operation. A SUPPLY-ON-OFF control provides oxygen to the mask when in the ON position. The control labeled 100% OXYGEN-NORMAL OXYGEN supplies pure or diluted oxygen to the mask. The control labeled EMERGENCY-NORMAL-TEST MASK supplies positive pressure to the mask when in the EMERGENCY position. The NORMAL position supplies diluted oxygen to the mask. Diluted oxygen is a mixture of ambient air and pure oxygen. The ratio of air to oxygen is determined by cabin altitude and is an automatic function of the regulator. The TEST MASK position supplies oxygen to the mask for test purposes. A pressure gage on each regulator panel indicates supply line pressure (50 to 90 psig). A flow indicator on each regulator panel indicates the flow of oxygen. Panel illumination is provided (Ref. Fig. 3).

B. Operation

The SUPPLY control must be in the ON position or no oxygen will be delivered to the mask. For normal operation, the supply control is in the ON position, and the diluter and emergency controls are in the NORMAL position.



R
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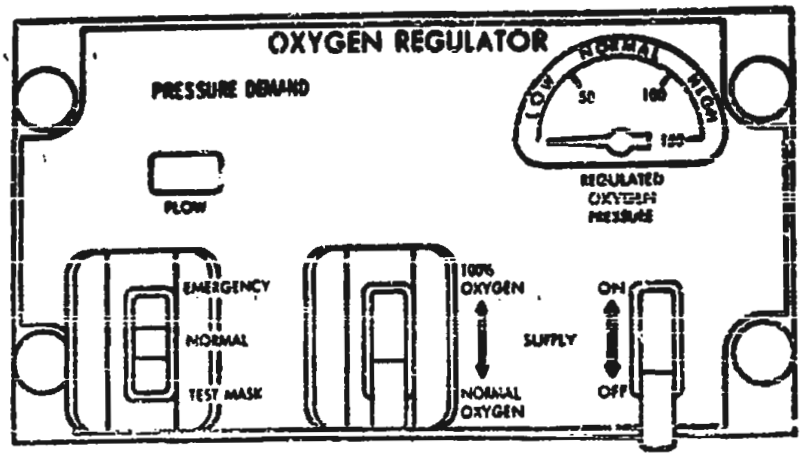
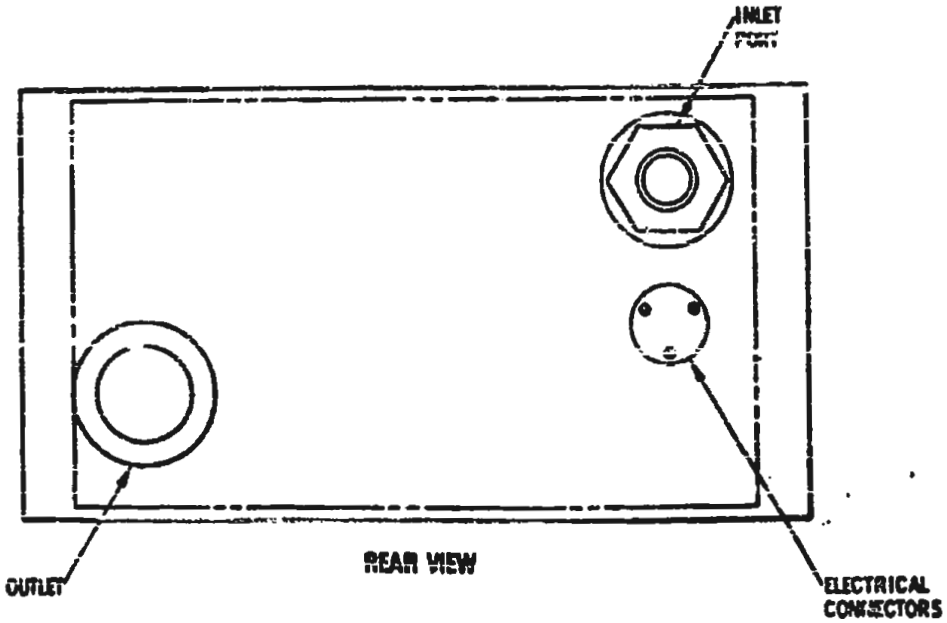
Crew Fixed Breathing Oxygen Cylinder
Figure 2



FRONT VIEW



REAR VIEW

HW 5396
M1-5200-35-017

Panel-mounted Diluter Demand Oxygen Regulator
Figure 3

This condition supplies oxygen to the mask on demand. An aneroid within the regulator controls dilution of oxygen with air. Above 28,000 feet cabin altitude, the aneroid closes the air valve, overrides the demand valve, and supplies pure oxygen at positive pressure to the mask.

Placing the diluter control in the 100% OXYGEN position closes the air valve in the regulator and delivers pure oxygen to the mask. This position may be selected at any time.

Placing the emergency control in the EMERGENCY position supplies positive pressure to the mask.

Failure of automatic operation of the regulator can be overcome by placing the diluter control to 100% OXYGEN and the emergency control to EMERGENCY. These positions mechanically override the demand diaphragm and supply pure oxygen at positive pressure to the mask.

5. Quick-disconnect Cylinder Retaining Strap

A. Description and Operation

The oxygen cylinder quick-disconnect retaining strap consists of a fixed-length cable end with swaged end fittings and an adjustable length quick-disconnect end (Ref. Fig. 4).

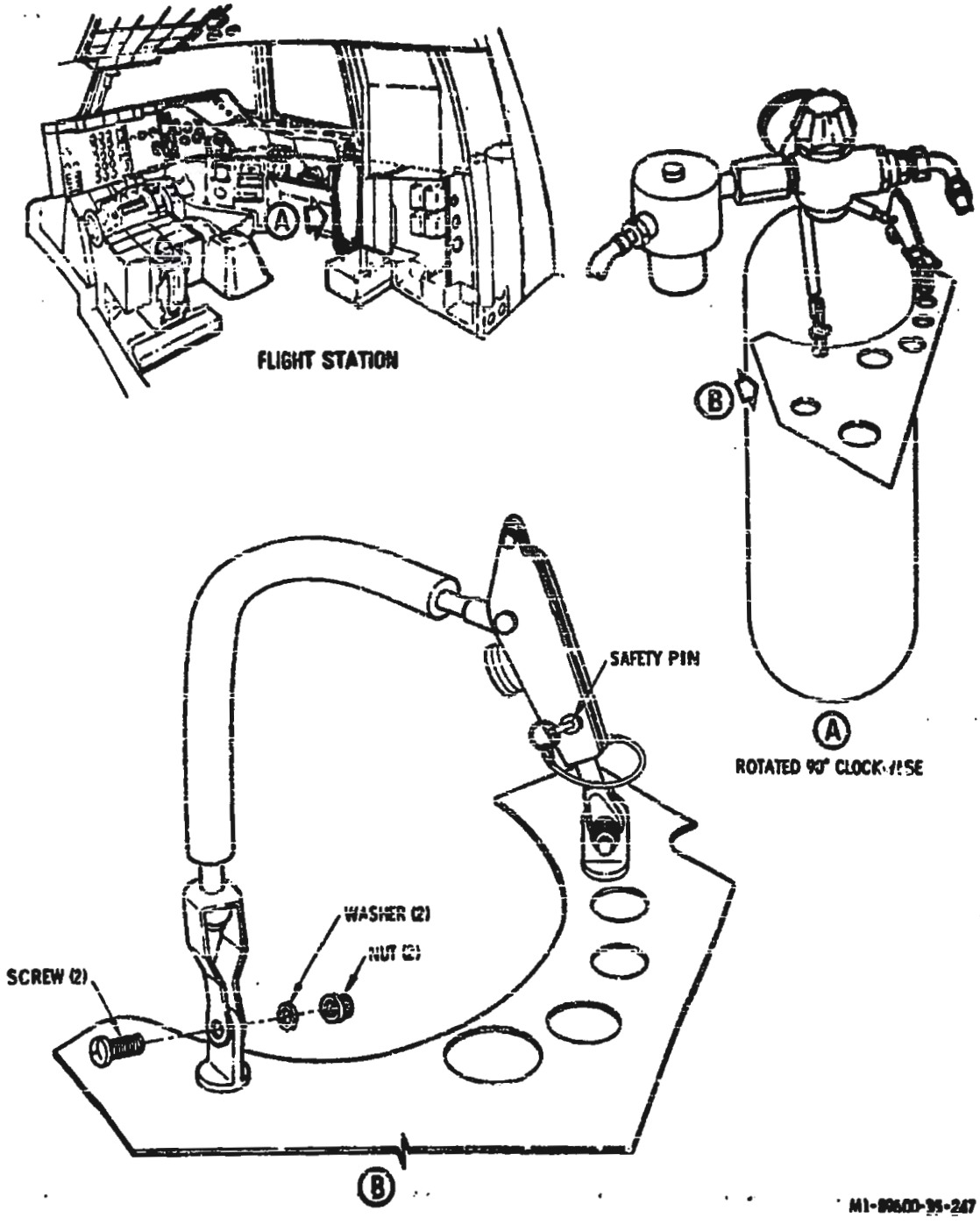
The quick-disconnect end has an adjustable-length clevis end threaded into a steel body. The steel body also has a handle with detent pin and lanyard pivoted to it.

In operation, the pivoted handle engages the end fitting of the fixed-length cable end. When in the open position, the length of the quick-disconnect end is extended, which puts slack in the cable end permitting it to be disengaged. Closing the handle shortens the length of the quick-disconnect end, which tightens the cable end to establish a secure fastening. The detent pin locks the handle in the closed position. Adjustment to the closed length, and the resulting degree of tightness, is made by threading the clevis end in or out of the body.

6. Oxygen Overboard Discharge Indicator

A. Description and Operation

The oxygen overboard discharge indicator is a green cellulose acetate frangible disc. The indicator is mounted



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Quick-Disconnect Cylinder Retaining Strap
Figure 4

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in an aluminum plate and is retained by a snap ring. The disc is flush-mounted in the fuselage skin exterior, zone 112. The indicator is connected by tubing to the high-pressure relief valve of the crews breathing oxygen cylinder. The disc is located below the oxygen cylinder vent port. If the oxygen cylinder pressure exceeds 2650 psig, the frangible disc in the cylinder valve ruptures. Relieved pressure discharges through the overboard discharge line which blows out the overboard discharge disc in the fuselage skin exterior. Absence of the disc provides external visual indication that excessive pressure had existed in the oxygen cylinder (Ref. Fig. 5).

7. Oxygen Mask

A. Description

Oronasal masks that cover the mouth and nose are provided in the flight station for each crewmember. Each mask contains an integral microphone. An oxygen hose and microphone cable connect the mask to the crew oxygen system outlets and the microphone system. The masks are stored next to each crew station.

C NOTE: See installation of supplemental oxygen masks in
C aircraft (Ref. 35-11-00, 201, Para. 2A) and Cleaning,
C Testing, Disinfecting, Packaging Crew Supplemental
C Masks (Ref. 35-11-00, 201, Para. 4).

B. Operation

If hazardous conditions develop in the flight station or loss of cabin pressure occurs, each crewmember immediately dons his oxygen mask. Protective breathing oxygen is supplied on demand.

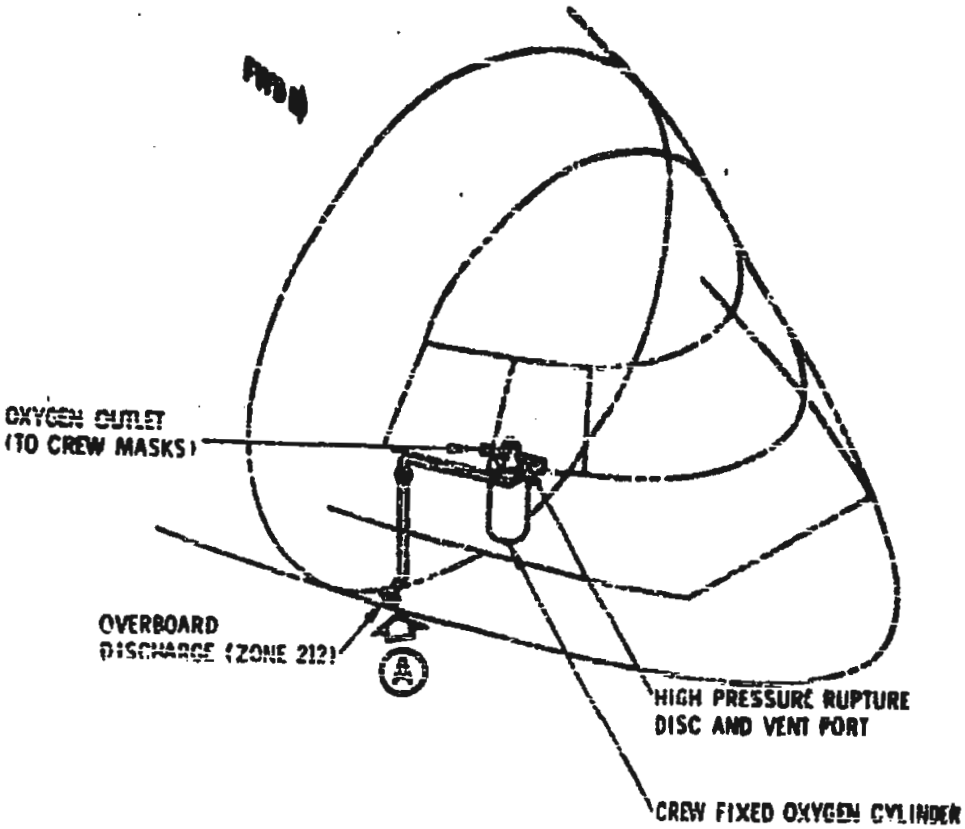
8. Pressure Reducer

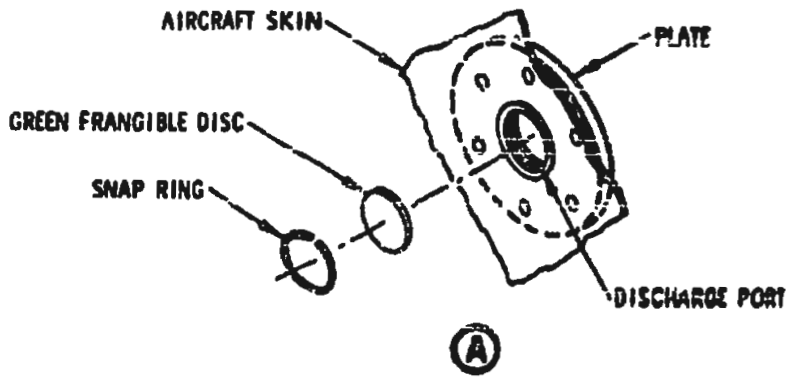
A. Description

R A pressure reducer, connected to the cylinder shutoff valve, reduces the cylinder output pressure to a lower nominal line pressure.

B. Operation

R The pressure reducer, connected to the cylinder shutoff
R valve, reduces cylinder pressure from 1800 ± 50 psig to an output pressure between 50 and 90 psig. A relief valve within the reducer automatically opens to relieve output





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R R Oxygen Overboard Discharge Indicator
Figure 5

line pressure at approximately 150 psig. The valve closes when the output line pressure reduces to approximately 100 psig. Relieved pressure is vented to the flight station atmosphere.

CREW OXYGEN SYSTEM - FAULT ISOLATION

1. General

Reference data and fault isolation procedures for troubleshooting Crew Oxygen System faults are included in this section of the manual. A system malfunction detected by the flight crew is normally entered in the aircraft flight log book and reported to maintenance personnel with a FIRM fault code number. This number and the flight log book write-up can be found in the Chapter Fault Code Index. The index specifies the maintenance manual section, fault isolation diagram figure number and, where appropriate, a block number indicating the diagram entry point containing the fault isolation procedure. When no block number is specified, the diagram entry point is Block 1.

PREREQUISITES listed at the top of each diagram identify mandatory preliminary steps and circuit breakers that must be closed before initiating any fault isolation step.

R Since no fault isolation reporting system can cover every
R failure symptom, supplemental fault isolation data are provided
R (Ref. Para. 3) in the form of system operational data or
R troubleshooting notes and keypoints.

Figure 101, Component Location Index, is an alphabetical listing of all components associated with the Crew Oxygen System. It gives the area and access of each component and its respective removal and installation reference.

Figure 102, Component Locator Diagram, illustrates the location on the aircraft of all the components listed in the Component Location Index.

Refer to the Maintenance Manual Introduction for a more detailed description of the Fault Isolation Reporting Method (FIRM) and use of fault isolation diagrams.

2. Fault Isolation/Identification

Table 101 is a list of all fault isolation data in this section of the manual.

TABLE 101

FIGURE	TITLE
101	Component Location Index
102	Component Locator Diagram
103	Crew Oxygen System Faults

C 3. Supplemental Fault Isolation Data

CR A. CREW OXYGEN MASK HOSE COUPLING LEAKAGE (MASK ASSEMBLY
CR 294-8200)

C When either by log entry or crew comment, leakage at the
C sidewall mask coupling receptacle is indicated, the
C following maintenance action is recommended. The crew
C complaint may indicate that one can breathe through the mask
C even though the demand regulator is set for no flow, that
C is, regulator supply off and center toggle on 100% position.

C (1) Temporarily disconnect the mask hose coupling at the
C sidewall receptacle. Examine the white rubber seal
C ring for defects. If rubber is hardened, cracked or
C torn replace seal TWA P/N 94-7681. If replacement seal
CR is not available, replace entire mask assembly
CR 294-8200. If above action is not successful in
C eliminating leakage proceed to Step (2) below.

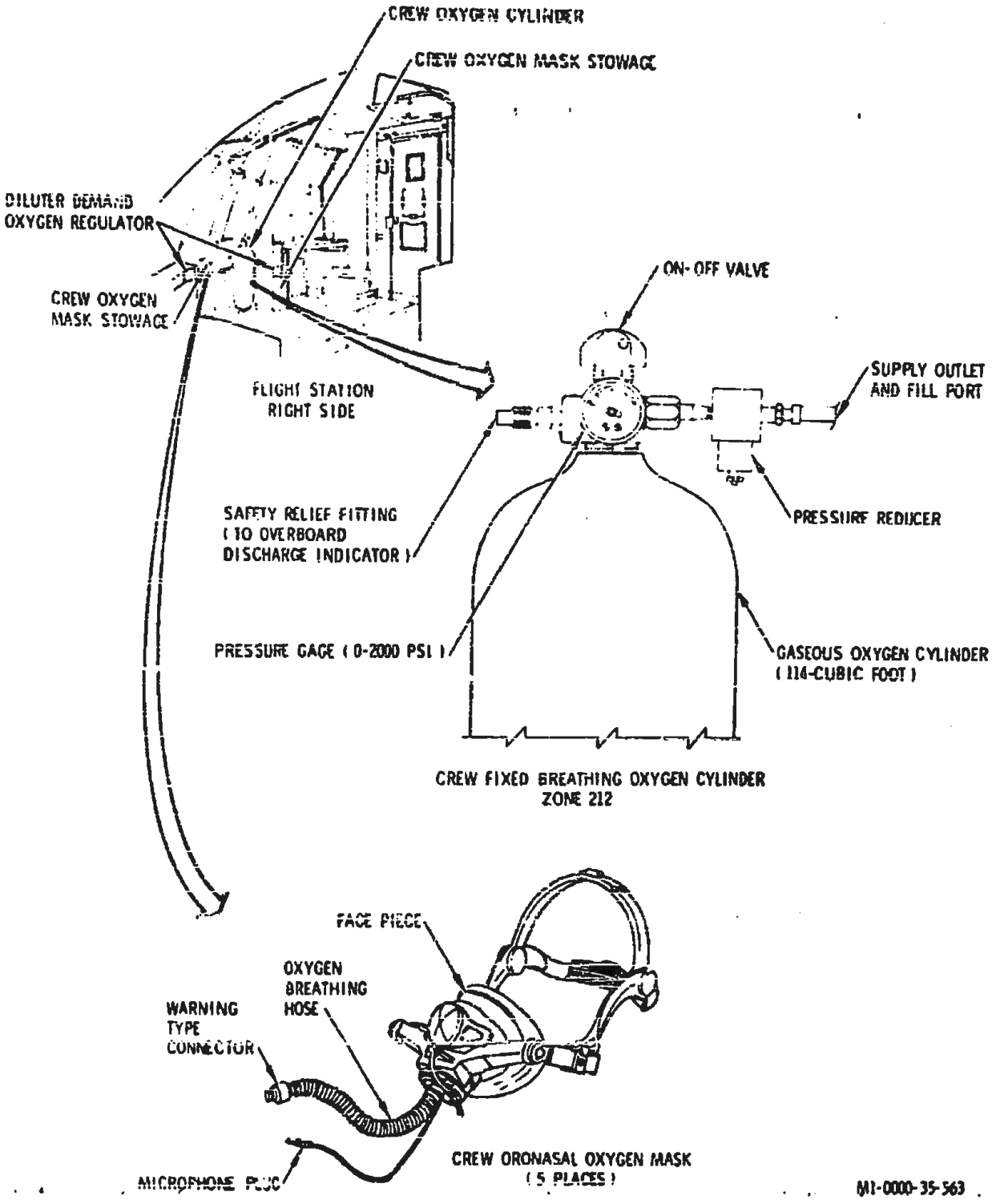
C (2) Temporarily disconnect the mask coupling at the
C sidewall receptacle. Clean the chrome plated lock ring
C on the coupling and the mating bore of the receptacle
C with a clean cloth dampened with clean isopropyl
C alcohol. Allow to air dry a moment without touching
C ring then reconnect mask coupling.

C CAUTION: THE NATURAL OILS ON YOUR FINGERS WILL REDUCE THE
C LOCKING FORCE OF THE COUPLING RING CONSIDERABLY.
C IF ABOVE ACTION IS NOT SUCCESSFUL IN ELIMINATING
C LEAKAGE, PROCEED TO STEP (3) BELOW.

C (3) Replace sidewall receptacle coupling with new coupling
C unit, TWA Stk. Nbr. 94-7090. New receptacle should
C eliminate leakage and permit successful leak check. If
C after receptacle replacement, leakage persists, it may
C be necessary to replace demand regulator or large
C diameter breathing hose between regulator and sidewall
C coupling.

CR NOTE: Refer to Maintenance Manual Chapter 35 on
CR maintenance leak check procedure details and
CR rubber seal and chrome ring installation
CR details.

COMPONENT	QTY	AREA/ACCESS	REFERENCE
ASSEMBLY – RELIEF VENT HOSE	1	FE/SO STATION, 212	35–11–08
ASSEMBLY – SUPPLY HOSE	1	FE/SO STATION, 212	35–11–09
CYLINDER – FIXED BREATHING OXYGEN	1	FE/SO STATION, 212	35–11–01
INDICATOR – OXYGEN OVERBOARD DISCHARGE	1	FUSELAGE SKIN/112	35–11–07
PRESSURE – REDUCER	1	FE/SO STATION/212	35–11–12
REGULATOR – DILUTER DEMAND OXYGEN	5	FLT/STA/210	35–11–02
RETAINING STRAP – QUICK DISCONNECT CYLINDER	1	FE/SO/212	35–11–06


CREW OXYGEN CYLINDER
CREW OXYGEN MASK STOWAGE
DILUTER DEMAND OXYGEN REGULATOR
CREW OXYGEN MASK STOWAGE
FLIGHT STATION RIGHT SIDE
ON-OFF VALVE
SUPPLY OUTLET AND FILL PORT
PRESSURE REDUCER
SAFETY RELIEF FITTING (TO OVERBOARD DISCHARGE INDICATOR)
PRESSURE GAGE (0-2000 PSI)
GASEOUS OXYGEN CYLINDER (114-CUBIC FOOT)
CREW FIXED BREATHING OXYGEN CYLINDER ZONE 212
FACE PIECE
OXYGEN BREATHING HOSE
WARNING TYPE CONNECTOR
MICROPHONE PLUG
CREW ORONASAL OXYGEN MASK (5 PLACES)
MI-0000-35-563

Component Locator Diagram
Figure 102 (Sheet 1)

R EFFECTIVITY: ALL
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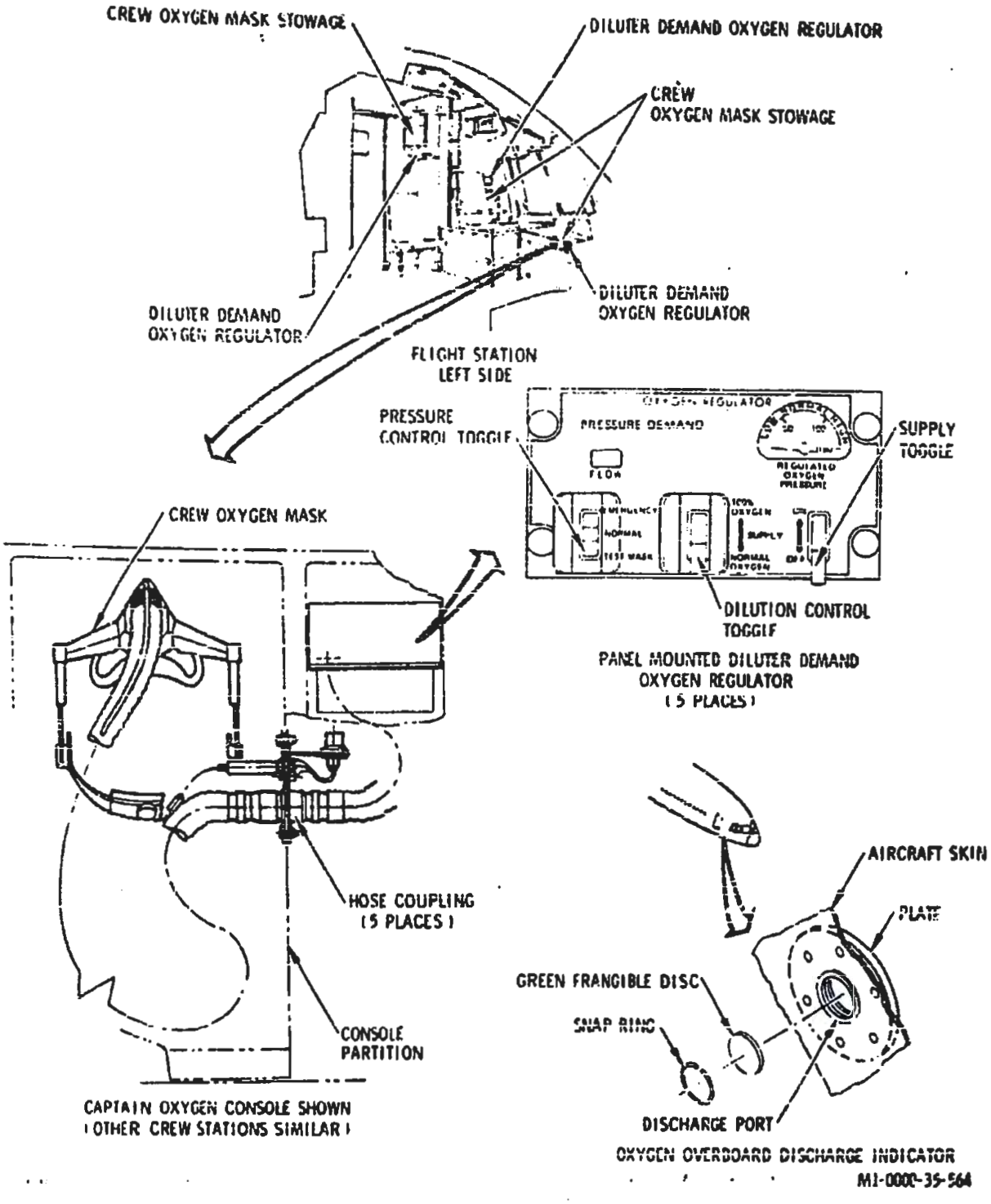

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Component Locator Diagram
Figure 102 (Sheet 2)

EFFECTIVITY: ALL

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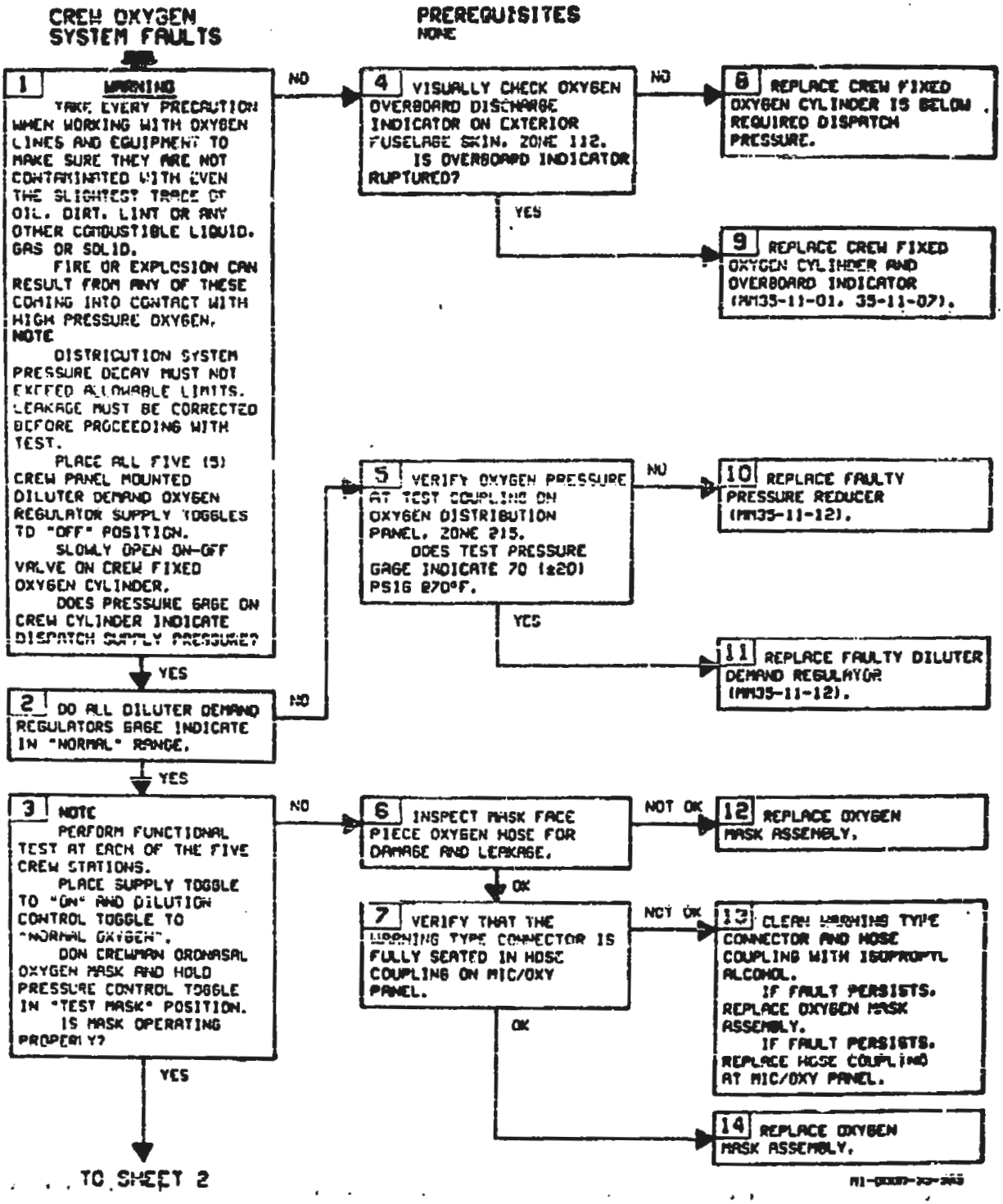
CREW OXYGEN SYSTEM FAULTS
PREREQUISITES
NONE
1 WARNING
TAKE EVERY PRECAUTION WHEN WORKING WITH OXYGEN LINES AND EQUIPMENT TO MAKE SURE THEY ARE NOT CONTAMINATED WITH EVEN THE SLIGHTEST TRACE OF OIL, DIRT, LINT OR ANY OTHER COMBUSTIBLE LIQUID, GAS OR SOLID.
FIRE OR EXPLOSION CAN RESULT FROM ANY OF THESE COMING INTO CONTACT WITH HIGH PRESSURE OXYGEN.
NOTE
DISTRIBUTION SYSTEM PRESSURE DECAY MUST NOT EXCEED ALLOWABLE LIMITS. LEAKAGE MUST BE CORRECTED BEFORE PROCEEDING WITH TEST.
PLACE ALL FIVE (5) CREW PANEL MOUNTED DILUTER DEMAND OXYGEN REGULATOR SUPPLY TOGGLES TO "OFF" POSITION.
SLOWLY OPEN ON-OFF VALVE ON CREW FIXED OXYGEN CYLINDER.
DOES PRESSURE GAGE ON CREW CYLINDER INDICATE DISPATCH SUPPLY PRESSURE?
NO
YES
2 DO ALL DILUTER DEMAND REGULATORS GAGE INDICATE IN "NORMAL" RANGE.
NO
YES
3 NOTE
PERFORM FUNCTIONAL TEST AT EACH OF THE FIVE CREW STATIONS.
PLACE SUPPLY TOGGLE TO "ON" AND DILUTION CONTROL TOGGLE TO "NORMAL OXYGEN".
DON CREWMAN ORONASAL OXYGEN MASK AND HOLD PRESSURE CONTROL TOGGLE IN "TEST MASK" POSITION.
IS MASK OPERATING PROPERLY?
NO
YES
TO SHEET 2
4 VISUALLY CHECK OXYGEN OVERBOARD DISCHARGE INDICATOR ON EXTERIOR FUSELAGE SKIN, ZONE 112.
IS OVERBOARD INDICATOR RUPTURED?
NO
YES
5 VERIFY OXYGEN PRESSURE AT TEST COUPLING ON OXYGEN DISTRIBUTION PANEL, ZONE 215.
DOES TEST PRESSURE GAGE INDICATE 70 (±20) PSIG @70°F.
NO
YES
6 INSPECT MASK FACE PIECE OXYGEN HOSE FOR DAMAGE AND LEAKAGE.
NOT OK
OK
7 VERIFY THAT THE LOCKING TYPE CONNECTOR IS FULLY SEATED IN HOSE COUPLING ON MIC/OXY PANEL.
NOT OK
OK
8 REPLACE CREW FIXED OXYGEN CYLINDER IS BELOW REQUIRED DISPATCH PRESSURE.
9 REPLACE CREW FIXED OXYGEN CYLINDER AND OVERBOARD INDICATOR (MM35-11-01, 35-11-07).
10 REPLACE FAULTY PRESSURE REDUCER (MM35-11-12).
11 REPLACE FAULTY DILUTER DEMAND REGULAYOR (MM35-11-12).
12 REPLACE OXYGEN MASK ASSEMBLY.
13 CLEAN LOCKING TYPE CONNECTOR AND HOSE COUPLING WITH ISOPROPYL ALCOHOL.
IF FAULT PERSISTS, REPLACE OXYGEN MASK ASSEMBLY.
IF FAULT PERSISTS, REPLACE HOSE COUPLING AT MIC/OXY PANEL.
14 REPLACE OXYGEN MASK ASSEMBLY.

R R Crew Oxygen System Faults
Figure 103 (Sheet 1)

R R EFFECTIVITY: ALL

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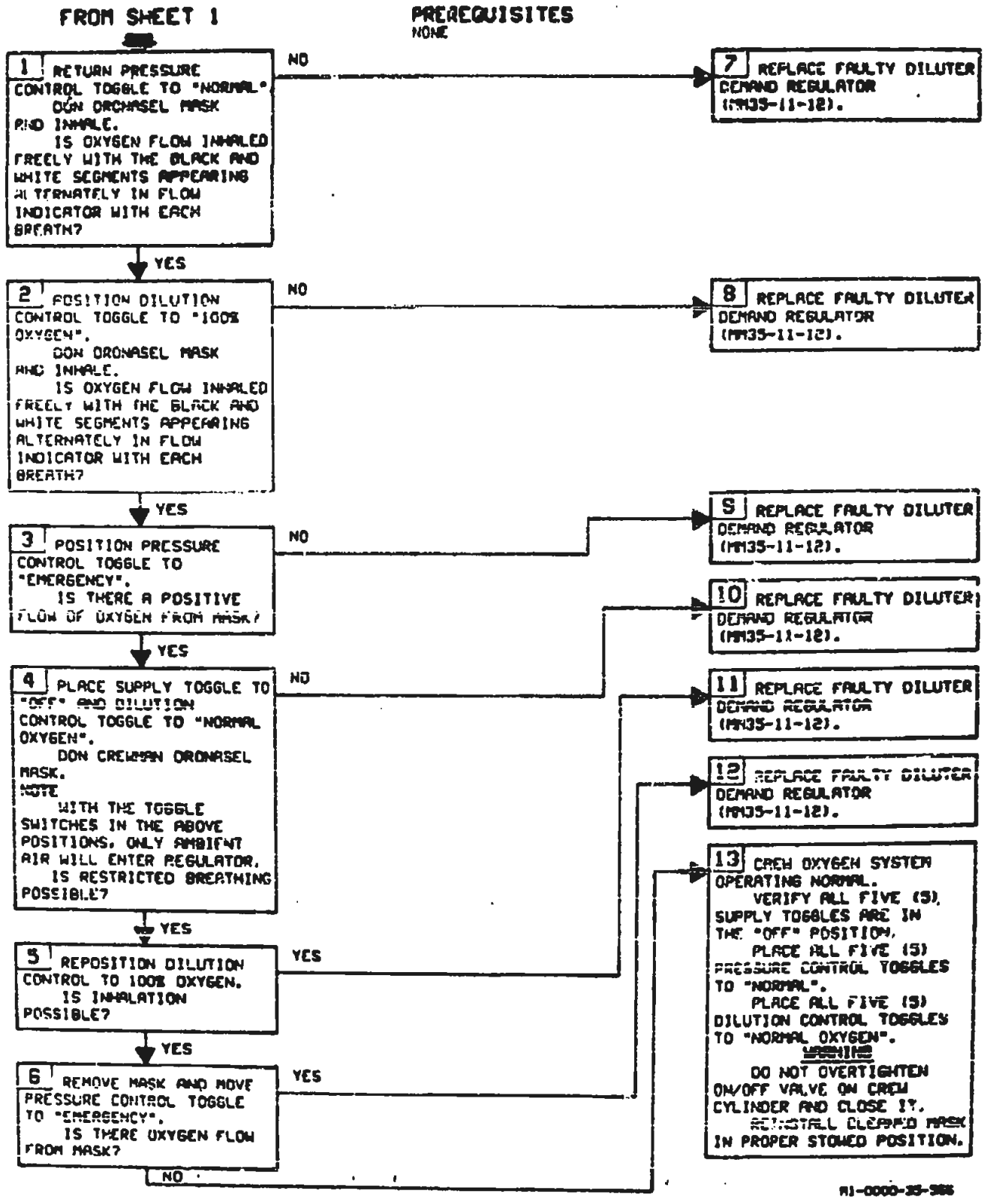
FROM SHEET 1
PREREQUISITES
NONE
1 RETURN PRESSURE CONTROL TOGGLE TO "NORMAL". DON ORONASEL MASK AND INHALE. IS OXYGEN FLOW INHALED FREELY WITH THE BLACK AND WHITE SEGMENTS APPEARING ALTERNATELY IN FLOW INDICATOR WITH EACH BREATH?
NO
7 REPLACE FAULTY DILUTER DEMAND REGULATOR (MM35-11-12).
YES
2 POSITION DILUTION CONTROL TOGGLE TO "100% OXYGEN". DON ORONASEL MASK AND INHALE. IS OXYGEN FLOW INHALED FREELY WITH THE BLACK AND WHITE SEGMENTS APPEARING ALTERNATELY IN FLOW INDICATOR WITH EACH BREATH?
NO
8 REPLACE FAULTY DILUTER DEMAND REGULATOR (MM35-11-12).
YES
3 POSITION PRESSURE CONTROL TOGGLE TO "EMERGENCY". IS THERE A POSITIVE FLOW OF OXYGEN FROM MASK?
NO
9 REPLACE FAULTY DILUTER DEMAND REGULATOR (MM35-11-12).
YES
4 PLACE SUPPLY TOGGLE TO "OFF" AND DILUTION CONTROL TOGGLE TO "NORMAL OXYGEN". DON CREWMAN ORONASEL MASK. NOTE WITH THE TOGGLE SWITCHES IN THE ABOVE POSITIONS, ONLY AMBIENT AIR WILL ENTER REGULATOR. IS RESTRICTED BREATHING POSSIBLE?
NO
10 REPLACE FAULTY DILUTER DEMAND REGULATOR (MM35-11-12).
YES
5 REPOSITION DILUTION CONTROL TO 100% OXYGEN. IS INHALATION POSSIBLE?
YES
11 REPLACE FAULTY DILUTER DEMAND REGULATOR (MM35-11-12).
YES
6 REMOVE MASK AND MOVE PRESSURE CONTROL TOGGLE TO "EMERGENCY". IS THERE OXYGEN FLOW FROM MASK?
YES
12 REPLACE FAULTY DILUTER DEMAND REGULATOR (MM35-11-12).
NO
13 CREW OXYGEN SYSTEM OPERATING NORMAL. VERIFY ALL FIVE (5) SUPPLY TOGGLES ARE IN THE "OFF" POSITION. PLACE ALL FIVE (5) PRESSURE CONTROL TOGGLES TO "NORMAL". PLACE ALL FIVE (5) DILUTION CONTROL TOGGLES TO "NORMAL OXYGEN". WARNING DO NOT OVERTIGHTEN ON/OFF VALVE ON CREW CYLINDER AND CLOSE IT. RE-INSTALL CLEANED MASK IN PROPER STOWED POSITION.
AI-0000-35-386

R R Crew Oxygen System Faults
Figure 103 (Sheet 2)

R EFFECTIVITY: ALL
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C CREW OXYGEN SYSTEM - MAINTENANCE PRACTICES

C 1. Handling Oxygen Masks

C A. General

C (1) A mask must be considered serviceable only if it has
C been properly cleaned and disinfected and is packaged
C in a sanitary transparent container with a properly
C filled out serviceable (M-210) tag attached, and is
C packed so the fitting on the end of the hose is
C visible. Masks in any condition other than this must
C be removed from service. These instructions apply even
C for masks which are normally carried in pouches or
C other containers when aboard the aircraft except that
C smoke mask hoses will be connected to the aircraft
C oxygen system at all times.

C NOTE: Exception - Masks installed in passenger pods on
C jet aircraft must not be packaged.

C B. An otherwise serviceable mask may be cleaned, disinfected
C and packaged for service as follows:

C (1) Prepare cleaning solution by mixing two tablespoonfuls
C of "Orvus" detergent in one gallon of 140°F water. Mix
C in these proportions any quantity necessary. For
C obvious reasons, a suitable and sanitary container and
C other equipment and clean water must be used. Orvus
C detergent is TWA P/N 50-0058.

CR WARNING: EXPOSURE TO THE CHEMICALS, IN EITHER THE
C CONCENTRATED OR DILUTED FORM, MAY BE MILDLY
C IRRITATING TO THE SKIN: THEREFORE, SUITABLE
C PERSONAL PROTECTION (RUBBER GLOVES, ETC.) AND
C ADEQUATE MEASURING UTENSILS MUST BE USED.

C (2) Immerse and scrub the mask with the above detergent
C solution. On masks with rebreather bags remove bottom
C plug, if installed, and flush the bag thoroughly with
C this solution. If mask is equipped with a microphone,
C either remove it or take precautions to keep it dry.
C If mask contains sponge rubber exhaust plugs, remove
C them and handle separately through the cleaning and
C disinfecting procedure.

C (3) Rinse mask and components thoroughly in warm water.
C This is to remove all traces of the cleaning solution.

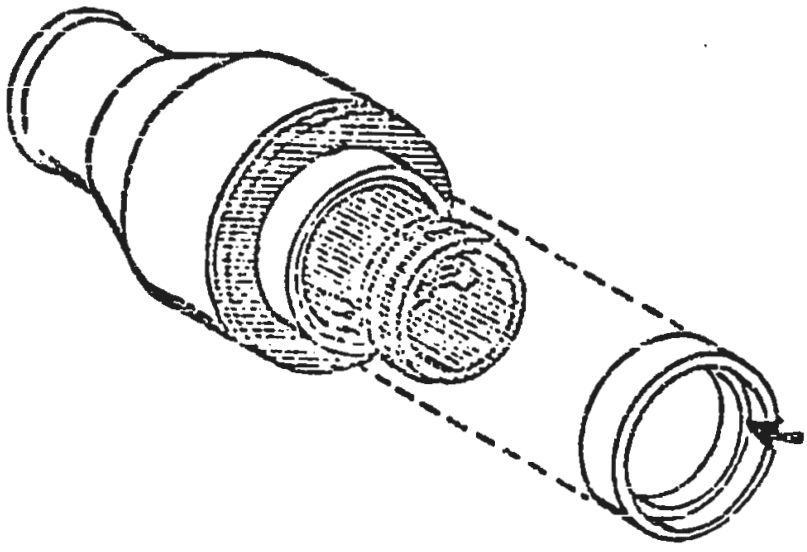
CR (4) Hang up to drain (squeeze out sponge rubber exhaust
CR plugs if it is that type of mask). Mask does not need
CR to be completely dry, but should be drip-free.

CR (5) Prepare disinfectant solution by mixing 3/4 ounce of
CR Wescodyne in one gallon of clean water. Wescodyne is
CR TWA P/N 50-0596.

CR (6) Immerse or coat mask and components in Wescodyne
CR solution as specified in Step (2); then hang it up
CR until dry. A sanitary location must be chosen for
CR drying. If mask is equipped with microphone, clean
CR microphone exterior surfaces with a cloth dampened with
CR Wescodyne.

CR (7) Inspect mask for damage from washing and reassemble all
CR parts which have been removed. Check connector seal
CR position in masks equipped with hose connector (Ref.
CR Fig. 201). If mask is a protective (smoke mask) type,
CR wipe the lens clean.

CR (8) On masks with adjustable straps open straps to full
CR length and on full face masks place the straps over the
CR face piece of lens. This positioning of the straps
CR will facilitate donning of the mask.



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CR Connector Seal
CR Figure 201

(9) Seal mask in a sanitary transparent container so that the hose end fitting is clearly visible through the container. The opening of the container should be folded down and stapled, using only two staples.

(10) Properly fill out a serviceable M-210 tag and securely attach to the container. It should be stapled in with the folded down top of the container.

(11) Mask is now considered serviceable.

2. Installation of Oxygen Masks in Aircraft

A. Supplemental Masks

R (1) The jet supplemental mask (294-8200) must be removed from its pliofilm bag and hung on the existing hanger at each crew position. At every crew change the crew will use germicidally treated tissue, TWA 92-7826, to clean their oxygen masks. Microphone plug and breathing tube must be plugged in. When installing the crew oxygen mask, make certain your fingers do not touch the chrome plated lock ring on the mask hose connector plug. The plug should have been covered with a small pliofilm bag. Remove the bag and insert plug into ships receptacle firmly until lock ring can be felt snapping in place. At every crew change the crew will use germicidally treated tissue, TWA Stk Nbr 92-7826, to clean their masks.

NOTE: A lead length of 9 inches on the microphone plug cable is required of all crew masks. Leads shorter than 9 inches may impose strain on the cable and cause the plug to become disengaged from the ships connector. If this occurred while a crewmember was wearing the mask, he would lose the ability to communicate. BE SURE THAT THE LEAD IS AT LEAST 9 INCHES LONG BEFORE INSTALLING MASK IN AIRCRAFT, (REF. FIG. 202).

(2) After cleaning this mask it is essential to assure that the red rubber inhalation flapper valve is completely dry. After it is dry, assure that the flapper is free to open. This may be done by raising the flapper with a clean, blunt probe or by extending and retracting hose and observing that flapper opens.

(a) After installing mask in cockpit, again assure that flapper valve is not stuck closed.

NOTE: If valve is stuck closed, crew will advise that no oxygen is available to mask.

(b) After a mask is checked and sanitized, a pliofilm bag is placed over the face cone. This bag should be left in place after the mask is installed.

NOTE: Do not cover the face cone of a mask unless it has just been sanitized.

(3) Whenever a mask hose connector is noted as disconnecting too easily the following corrective procedure should be used:

(a) Wipe the chrome plated lock ring on the plug with a clean cloth dampened with clean isopropyl alcohol. Allow alcohol to air dry or dry with clean, dry nitrogen. Insert plug into receptacle and check disconnection force for a minimum of 10 pounds straight pull.

(b) If Step (a) above does not correct problem then install new lock ring TWA 92-4894 as shown on plug. Repeat Step (a) above.

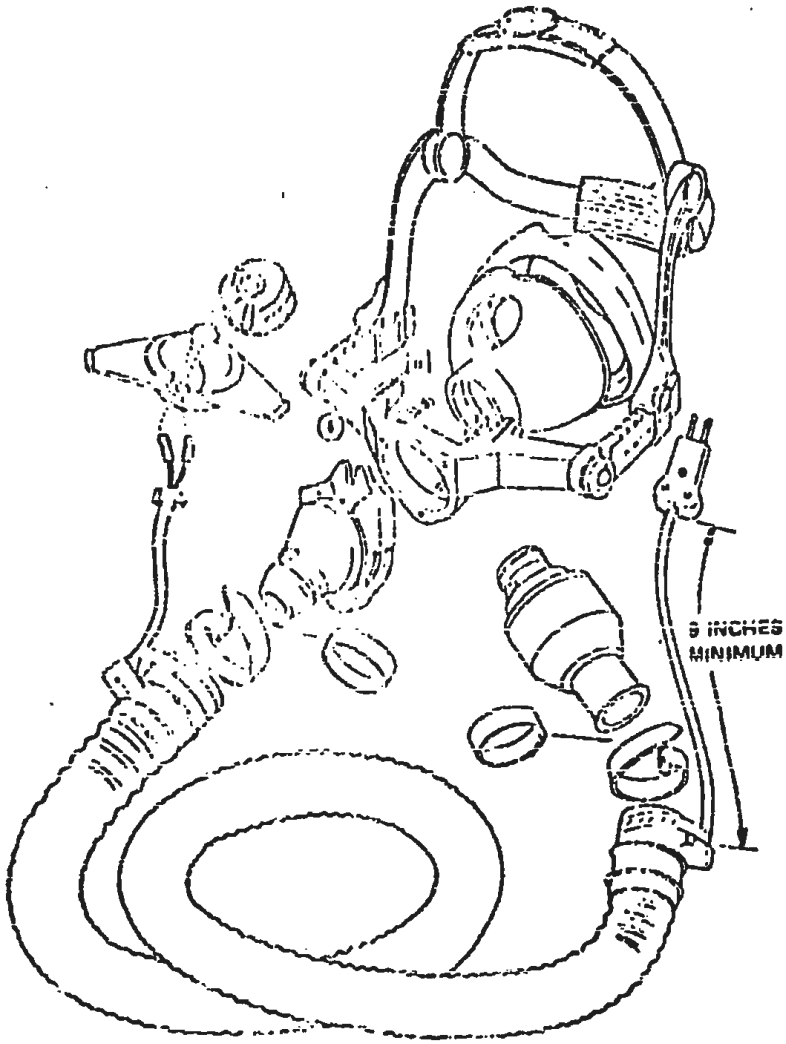
(c) If Step (b) does not correct problem, wipe out inside diameter of the aircraft oxygen system mask receptable using a clean cloth dampened with alcohol. Dry receptacle with clean, dry nitrogen sufficiently to remove alcohol odor. Repeat Step (a).

(d) If Step (c) does not correct problem replace hex head bushing TWA 94-7385, in the aircraft oxygen system receptacle valve or replace receptacle fitting TWA 94-7090. Refer to parts catalogs for installation details. Repeat Step (a) above.

B. Protective (SMOKE) Goggles (See Figure 203)

(1) Place smoke goggles (TWA 47-2008) in special stowage pouch installed on cockpit as follows: Captain's in left console; first officer's in right console; flight engineers in pocket in back of first officers chair and 1st ACM in pocket in back of captain's chair. Goggles should be placed in pouch with lenses facing back of pouch. Remove pliofilm bag or any other packaging material from goggles before placing them in pouch.

(2) The correct type is easily identified by the following special features: Refer to Paragraph 2C and 3.



HA 2404
M1-5000-35-065

Jet Crew Oxygen Mask
Figure 202

CR
CR

R EFFECTIVITY: ALL
R
0508

(a) They are one piece plastic, similar to protective goggles used when performing grinding operations (Ref. 1, Fig. 203).

(b) The lens portion is amber colored (Ref. 2, Fig. 203).

(c) The face seal is green neoprene (Ref. 3, Fig. 203).

NOTE: The face seal has been deleted from latest production goggles. Both types are approved.

(d) Two thin plastic tubes about 1-1/2 inches long project downward from under each eye (Ref. 4, Fig. 203).

C. Proper Stowing of Cockpit Smoke Mask

(1) One full-face, goggle type smoke mask is stowed in the cockpit of all TWA aircraft. This mask must be available for immediate use; therefore, the following requirements must be assured when installing or checking the smoke mask:

(a) The mask hose coupling is connected to the receptacle on the adjacent portable oxygen cylinder.

(b) The pliofilm bag, in which the mask is stowed, must not be taped, wired, or otherwise fastened around the breathing hose. To help keep the mask free of air borne dust, the pliofilm bag should be twisted around the hose and left unsecured.

3. Removal and Installation Oronasal Masks

A. A functional test of the microphone of this mask is required at time of installation. Refer to 23-51-08, 501 Oxygen Mask Microphone - Adjustment and Test.

4. Cleaning, Testing, Disinfecting, Packaging Crew Supplemental Masks

NOTE: See simplified cleaning procedure for routine cleaning/replacement under Periodic (PS) Maintenance Program, Paragraph 7.

A. Materials Required:

C (1) Rubber Gloves

C (2) Orvus Detergent - TWA P/N 50-0058

C (3) Wescodyne Disinfectant - TWA P/N 50-0596

C (4) Test Set, Oxygen Mask Mic - EQ 212

C (5) Test Stand - Jet Crew Mask Valve - Puritan 919018

C (6) Pliofilm Bag (Large) - TWA P/N 48-1012

C (7) Pliofilm Bag (Small) - TWA P/N 48-1006, 48-1518

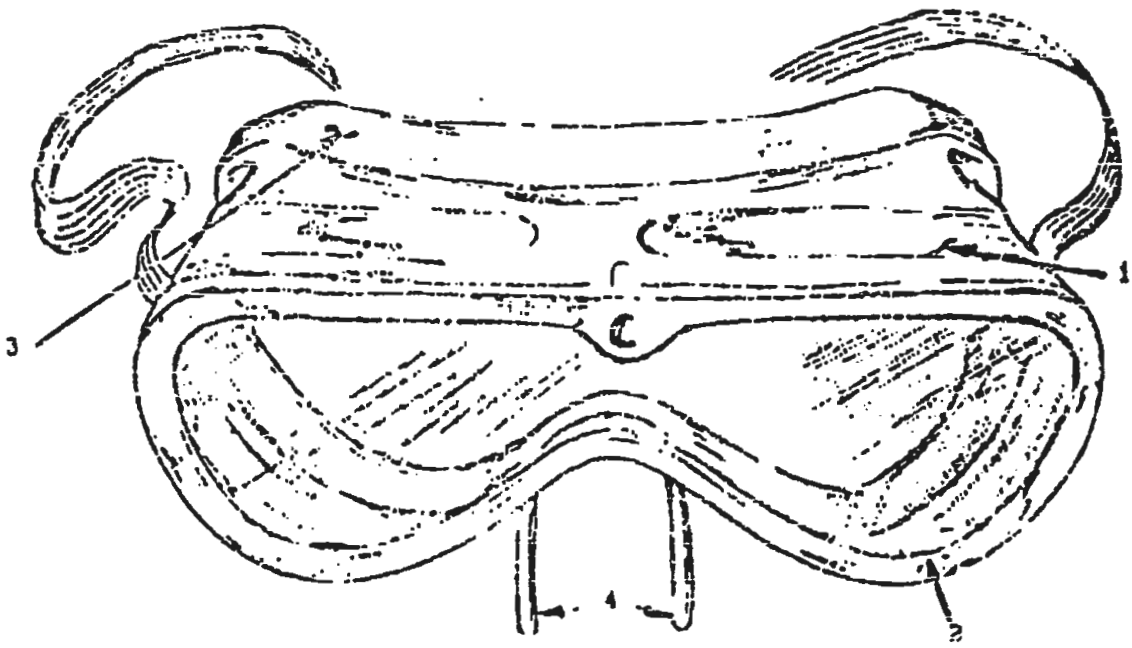
C (8) Date Tag - TWA P/N 1-62621-1 (Valve Test Tag)

C (9) Two (2) Clean Dish Pans

C (10) Plug, Oxygen Mask Microphone Protector, GEN 857 - TWA P/N 47-2020

C (11) Plug, GEN 1360

C B. To clean, test, disinfect and package jet crew supplemental masks, proceed as follows:



HA 2155
M1-5000-35-065

C Smoke Goggles
C Figure 203

NOTE: Personnel hands, clothing and general area must be clean.

C. Procedure

(1) If valve test is due on mask also, check the aircraft oxygen system connector plug of the mask hose for disconnection force. This is accomplished by inserting the plug into a mating receptacle (such as TWA Stk Nbr 94-7090 or 294-0687) and assuring pull force to disconnect is minimum of 10 pounds. If disconnection force is less than 10 pounds, replace spring ring (92-4894) per illustration (Ref. Fig. 204).

CAUTION: BEFORE CONDUCTING PULL TEST IT IS ESSENTIAL TO CLEAN BOTH THE CHROME PLATED RING ON THE PLUG AND THE INSIDE DIAMETER OF THE RECEPTACLE WITH CLEAN ISOPROPYL ALCOHOL TWA STK NBR 50-0143.

(2) Check the valve test date tag on the hose (the valve and microphone must be tested every 6 months). If the valve test is due perform the following:

(a) Disassemble and clean all parts of breathing valve assembly.

(b) Test breathing valve and hose for leakage and operation per the instructions on Puritan Test Stand P/N 919018 and overhaul manual.

NOTE: If breathing valve assembly has not been lapped, both valve seat and valve stem must be lapped prior to valve cleaning and overhaul. Lapped valves are identified by yellow paint on the valve assembly screws.

(c) Perform test of microphone as last step in servicing operation [Ref. Step (14)].

NOTE: If the test equipment is not available, send mask to nearest station (MCI, JFK or LAX) where test equipment is available.

(d) After valve-microphone test are completed, install new valve test date tag P/N 1-62621-1 on hose, dated 6 months hence.

(3) Check hose end connector seal position for conformity with Figure 201.

(4) Check for security of attachment of the mask to hose connection as follows (Ref. Fig. 205):

(a) On masks equipped with the new type light bluish-green colored hose, the hose must be completely bottomed on the mask hose fitting (line A must coincide with line B).

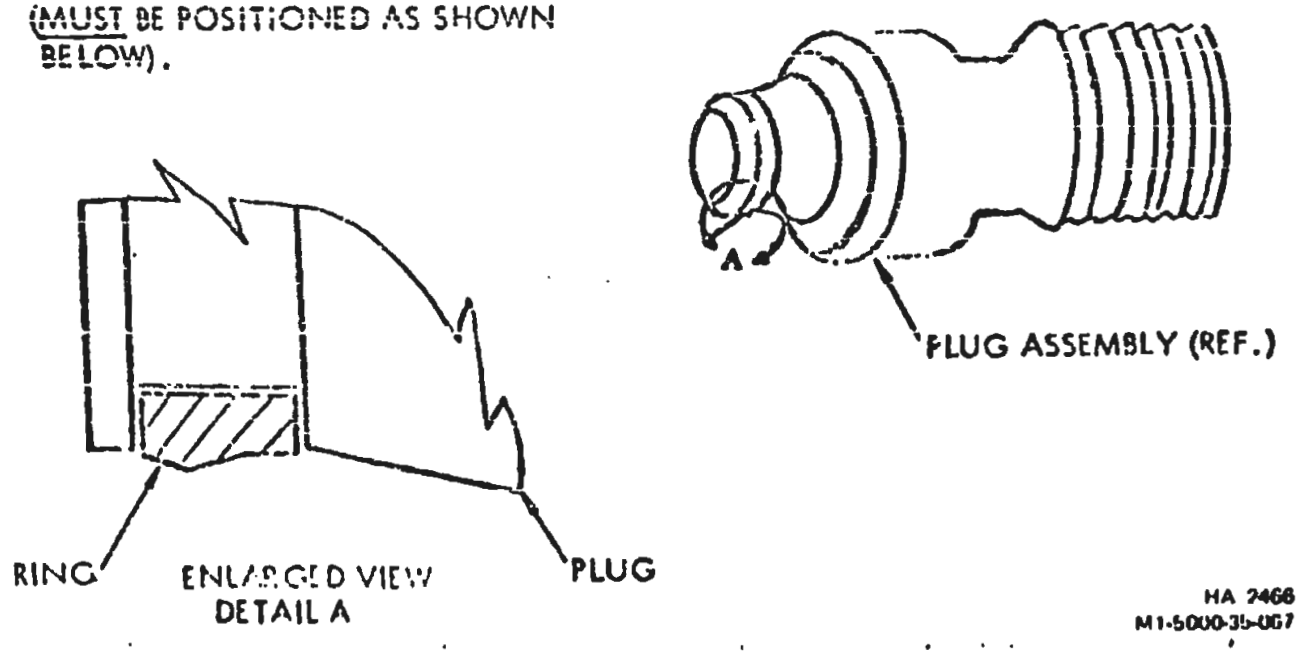
(b) If the hose is not bottomed, the mask assembly should be returned to the mask-testing station which services the affected station. Tag mask, "Check Mask-Hose Attachment."

(c) Masks equipped with the older style dark green hose need not be checked per above.

(5) Prepare cleaning solution by mixing 2 tablespoons of ORVUS detergent (TWA P/N 50-0058) in one gallon of clean hot water. Normal hot water supply at 140°F is suitable.

NOTE: It is recommended that rubber gloves be worn when using ORVUS as it may be mildly irritating to the skin of some individuals.

(6) The masks may be cleaned while fully assembled; however, when face cones and masks are found excessively dirty, the face cone should be removed for more thorough cleaning.



Plug Assembly - Spring Ring
Figure 204

NOTE: Use tool GEN 1360 to plug bleed hole when cleaning face cone.

CAUTION: DO NOT IMMERSE FACE CONE IN LIQUID. THE SOFT GREY RUBBER FACE SEAL REQUIRES SPECIAL PRECAUTIONS DURING CLEANING OF THE FACE CONE. WHEN SWABBING THE FACE CONE SEAL WITH DETERGENT OR GERMICIDE, IT IS ESSENTIAL TO COVER, PLUG OR TEMPORARILY SEAL THE BLEED HOLE BUILT INTO THE SEAL. IF THE BLEED HOLE IS NOT COVERED, FLUID WILL COLLECT IN THE SPONGE RUBBER INSIDE THE GREY RUBBER SEAL AND SUBSEQUENTLY OOZE OUT WHEN THE MASK IS DONNED.

(7) Clean microphone rubber housing and the plastic cover over the microphone face with a cloth dampened with the cleaning solution.

(8) Disinfect microphone rubber housing and the plastic cover of the microphone face with a clean cloth dampened with Wescodyne solution.

(9) Install microphone cleaning plug (TWA Stk Nbr 47-2020) over microphone, as follows:

(a) Dip cap edge of plug lightly into alcohol to create suction of cup on microphone perimeter.

(b) Shake cup to remove any excess alcohol.

(c) Position cup to microphone, covering completely.

NOTE: Install cup to microphone using alternating circular motion.

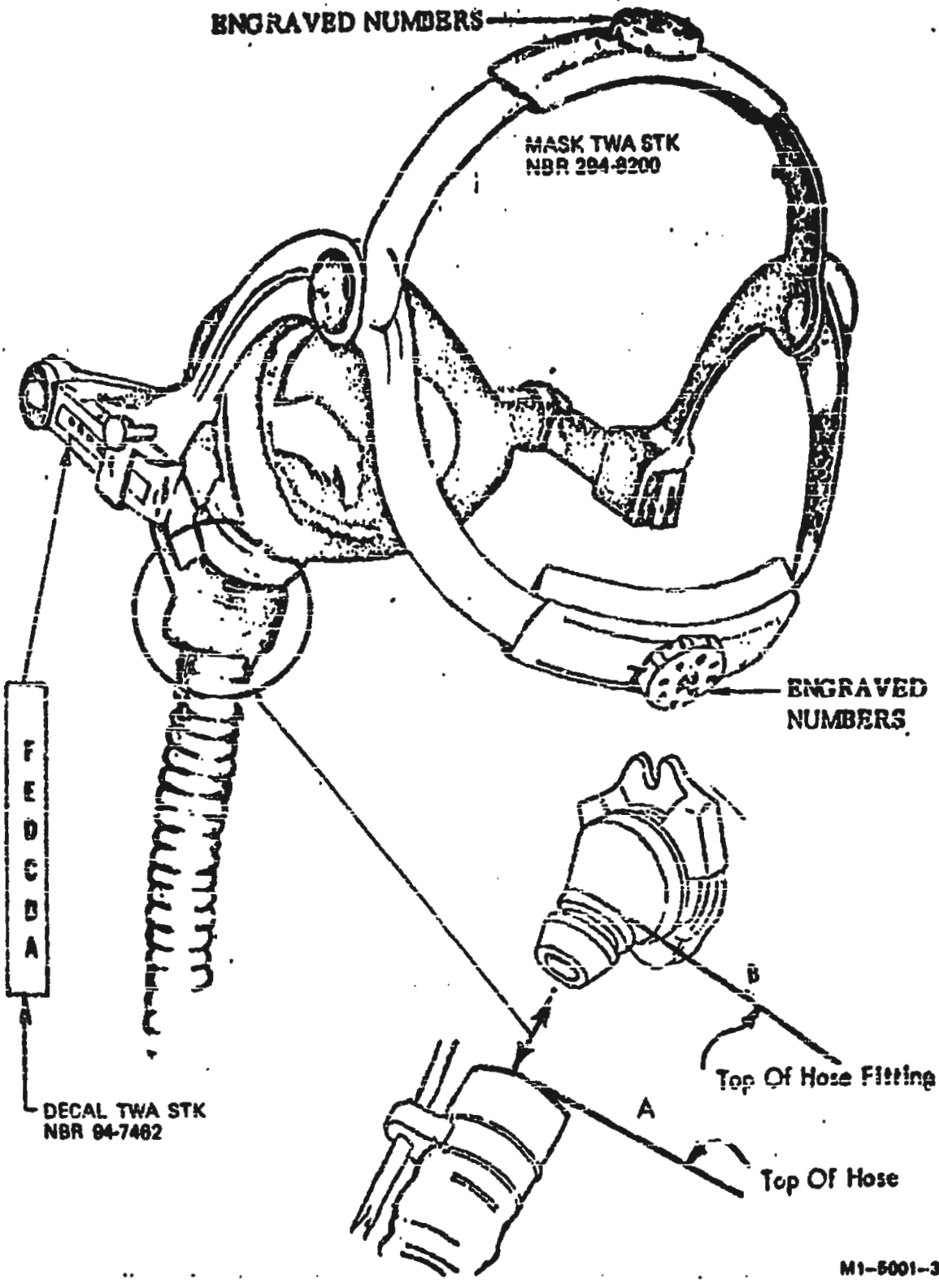
(10) Prepare disinfectant solution by mixing 3/4 fluid ounce of Wescodyne (TWA Stk Nbr 50-0596) in a gallon of clean water.

(11) Immerse mask into warm cleaning solution and thoroughly clean head frame, breathing tube and check valve.

NOTE: Dip quickly - do not allow to soak.

(12) Immerse mask into Wescodyne solution. Make certain that disinfectant reaches and covers all portions of hose, valve and head frame.

NOTE: Dip quickly - do not allow to soak. Blow out excess water in cone area with mild air pressure.



CR
CR

Quick-Donning Oxygen Mask
Figure 205

EFFECTIVITY: ALL

001B

(13) Hang mask up to dry. Hose should be fully extended for proper drainage. When dry, reassemble face cone on harness cross bar. Insert microphone into hole provided in cone if disassembled, insuring that rubber cover forms good seal in face cone and is not rolled or otherwise distorted. Assure that the thin plastic protective cover is in place over microphone.

(14) Microphone test: due only each 6 months when valve test is required [Ref. Step (2)]. Check microphone with test set. If microphone is not OK per test set instructions, return mask to MCI Radio Shop tagged, "Microphone Defective."

(15) Clean the chrome plated lock ring on the connector plug (Ref. Fig. 206). To clean the ring, use a clean cloth dampened with clean isopropyl alcohol then, either allow ring to air dry or blow it dry with clean dry nitrogen.

CAUTION: AFTER CLEANING RING, DO NOT TOUCH IT. THE OIL ON YOUR FINGERS WILL REDUCE ITS EFFECTIVE LOCKING FORCE CONSIDERABLY.

(16) After the ring is dry, cover the connector plug with a pliofilm bag, TWA 48-1006, secured with a rubber band and attach serviceable tab.

NOTE: The mask face cone should be covered by bag, TWA STK NBR 48-1518, and the entire mask packaged, when required, in bag, TWA Stk Nbr 48-1012.

D. Oxygen mask microphone protector plugs (Ref. Fig. 206) are being provided maintenance stations for the above cleaning purposes.

E. Crew Supplemental Mask Check

NOTE: This check is to be made each time a crew oxygen mask is cleared.

(1) Visually check for cracks or pinholes in the red rubber flapper valve inside the face cone, while manually extending and retracting the breathing hose. Such movement of the hose causes the valve to open and close, making detection of defects easier.

(2) Masks with defective inhalation flapper valves must be forwarded to regional mask overhaul shop (JFK/LAX/MCI) for valve replacement. Any visually detectable hole or cut in red rubber valve is cause for rejection.

CR C **CAUTION:** DO NOT PROBE OR ATTEMPT TO STRETCH THE FLAPPER VALVE.

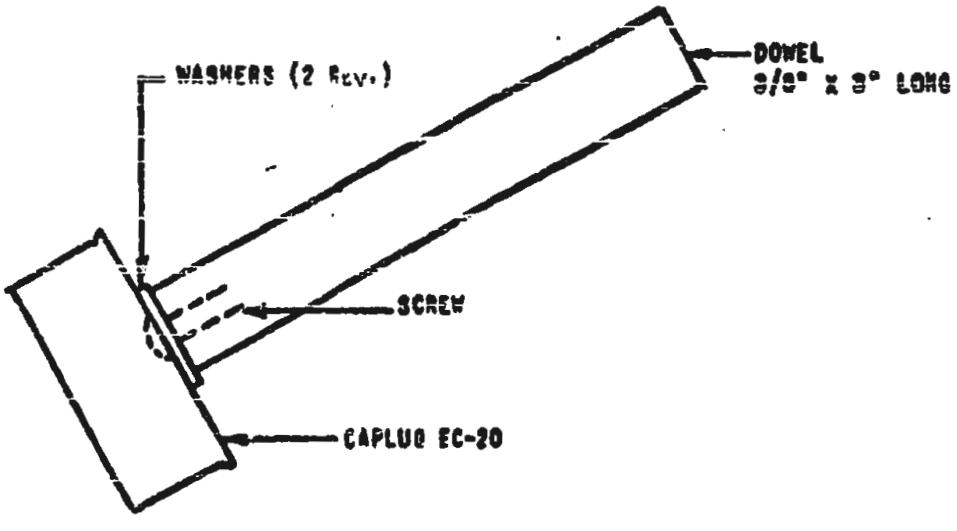
C C C C C C C AFTER CLEANING THIS MASK, IT IS ESSENTIAL TO ASSURE THAT THE FLAPPER VALVE IS COMPLETELY DRY. A VALVE WET WITH CLEANING FLUID CAN STICK TIGHTLY CLOSED WHEN IT DRIES. ASSURE THAT THE DRY FLAPPER VALVE IS FREE TO OPEN BY ALTERNATELY EXTENDING AND RETRACTING THE HOSE AND OBSERVING THAT FLAPPER OPENS.

CR 5. Deleted

C 6. Microphone Cover Replacement

C C C A. Whenever the existing microphone cover on the jet crew quick-don oxygen mask requires replacement, for any reason, use cover TWA P/N 1-66839-1.

C C C C B. The existing cover is difficult to replace and necessitates disturbing of the microphone leads. The new cover is installed over the microphone housing and does not require microphone removal.



HA 2488
M1-6000-35-000

C C Oxygen Mask Microphone Protector Plug
Figure 206

C. The new cover is a 2-1/4 inch square piece of plastic coated fabric. Whenever the cut-to-size cover TWA P/N 1-66839-1 is not available, one may be cut from sheet fabric TWA Stk Nbr 53-0662.

D. Install the cover, with the plastic coated side out, between the microphone housing and the mask face cone (Ref. Fig. 207).

7. Simplified Cleaning, Disinfecting, Packaging, Crew Supplemental Oxygen Masks

A. This simplified cleaning procedure for crew oxygen masks (TWA Stk Nbr 294-8200) is being disseminated primarily for the benefit of those stations now involved in replacing (removing for cleaning) crew masks routinely under the new Periodic Service (PS) Maintenance Program. It is to be understood that masks in the following categories, instead of being cleaned locally, should be forwarded to the nearest qualified mask maintenance station (JFK/MCI/LAX) for the more extensive servicing required:

(1) Masks with damaged malfunctioning or missing parts. This includes torn seals, loose pads, illegible adjustment letters/numbers, binding pivot points or no torsional spring loading force at pivot points.

(2) Masks that are unusually dirty and unsightly and that require disassembly and special handling to restore to serviceability.

(3) Masks that require valve testing as indicated by date on hose band showing test is due.

NOTE: Valve testing is scheduled at 6 month intervals and includes a microphone test and connector breakaway force pull test.

B. Materials Required:

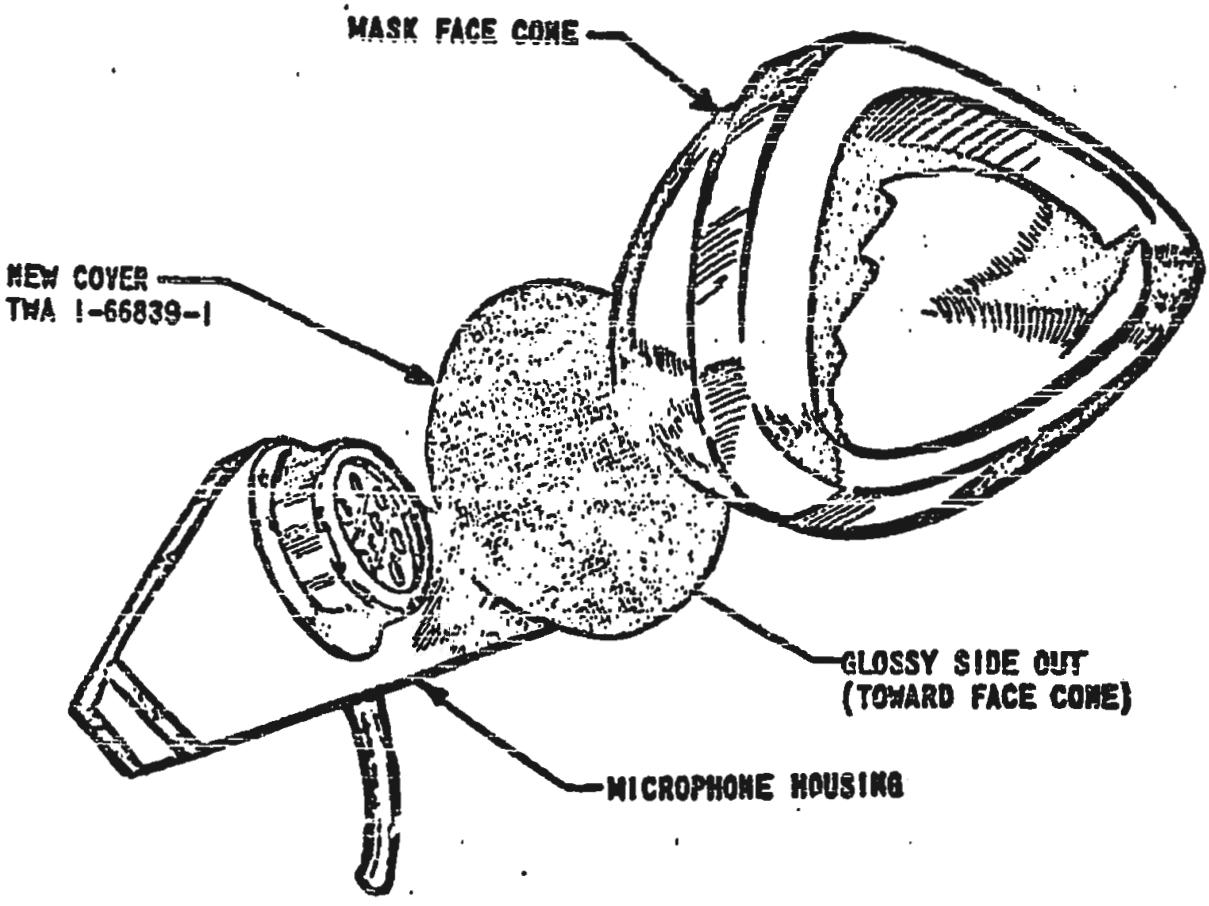
(1) Orvus Detergent - TWA Stk Nbr 50-0058

(2) Wescodyne Disinfectant - TWA Stk Nbr 50-0596

(3) Two (2) Clean Dish Pans

(4) Pliofilm Bags (Small) - TWA Stk Nbr 48-1006, 48-1010

(5) Pliofilm Bags (Large) - TWA Stk Nbr 48-1012



HA 2470
M1-5000-35-071

CR Microphone Cover Replacement Jet Mask 294-8200
CR Figure 207

EFFECTIVITY: ALL

001B

(6) Plug Oxygen Mask Microphone Protector, GEN 857 - TWA Stk Nbr 47-2020

(7) Isopropyl Alcohol - TWA Stk Nbr 50-0163

(8) Spring Clamp - TWA Stk Nbr 48-1880 (GEN 1360)

(9) Area for Drying Masks - Cabinet or Room Not Exposed to Dirt Conditions

C. Check the valve date tag on the hose (the valve must be tested every six (6) months). If the valve test is not due, the masks may be cleaned while fully assembled provided the following procedure is used.

CAUTION: THE SOFT GREY RUBBER FACE SEAL REQUIRES SPECIAL PRECAUTIONS DURING CLEANING OF THE FACE CONE. WHEN DIPPING OR SWABBING THE FACE CONE SEAL WITH DETERGENT OR GERMICIDE, IT IS ESSENTIAL TO COVER, PLUG OR TEMPORARILY SEAL THE BLEED HOLE BUILT INTO THE SEAL (USE PLUG/CLAMP TWA STK NBR 48-1880 OR EQUAL FOR THIS PURPOSE). IF THE BLEED HOLE IS NOT COVERED, FLUID WILL COLLECT IN THE SPONGE RUBBER INSIDE THE GREY RUBBER SEAL AND SUBSEQUENTLY OOZE OUT WHEN THE MASK IS DONNED.

(1) Prepare cleaning solution by mixing 2 tablespoons of Orvus detergent in one gallon of clean hot water. Normal hot water supply at approximately 140°F is suitable. Place solution in a clean dish pan.

(2) Clean microphone rubber housing and the cover over the microphone face, with a cloth dampened with the cleaning solution.

(3) Prepare disinfectant solution by mixing 3/4 fluid ounce of Wescodyne in a gallon of clean water. Place solution in a clean dish pan.

(4) Disinfect microphone rubber housing and the plastic cover of the microphone face with a clean cloth dampened with Wescodyne solution.

(5) Install microphone cleaning plug over microphone, as follows:

(a) Dip plug lightly into alcohol.

(b) Shake cup to remove any excess alcohol.

(c) Position cup on microphone. Using gentle rotary motion, force the cup over microphone to protect it from the fluid to be used in cleaning mask.

(6) Install spring clamp (Stk Nbr 48-1880) over bleed hole built into the face cone seal. IT IS ABSOLUTELY ESSENTIAL TO TEMPORARILY SEAL THE BLEED HOLE BUILT INTO THE SEAL. REPEAT! If the bleed hole is not covered, fluid will collect in the sponge rubber inside the grey rubber seal and subsequently ooze out when the mask is donned.

(7) Clean the mask face cone, headframe and attachments with a clean cloth dampened with the cleaning solution. Shake or blow off excess solution.

(8) Immerse mask into Wescodyne solution. Make certain that disinfectant reaches and covers all portions of hose, valve and headframe.

NOTE: Dip quickly - do not allow to soak. Blow out excess fluid in cone area with mild air pressure.

(9) Remove microphone cleaning plug, clamp over seal bleed hole, and hang up mask to dry. Hose should be fully extended for proper drainage.

(10) After mask is dry, clean the chrome plated lock ring on the connector plug as follows:

(a) Clean the ring, using a clean cloth dampened with isopropyl alcohol. Allow ring to air dry or blow it dry with clean dry nitrogen.

CAUTION: AFTER CLEANING RING, DO NOT TOUCH IT. THE OIL ON YOUR FINGER WILL REDUCE ITS EFFECTIVE LOCKING FORCE CONSIDERABLY.

(11) After the ring is dry, cover the connector plug with a pliofilm bag TWA Stk Nbr 48-1006, secured with a rubber band.

(12) Cover the face mask with a small pliofilm bag TWA Stk Nbr 48-1010.

(13) Package the entire mask in a large pliofilm bag TWA Stk Nbr 48-1012. This step may be deleted if mask will be immediately reinstalled in aircraft.

C 8. Adjustment/Check - Crew Supplemental Oxygen Mask

CR A. Pivot Screw Adjustment (Ref. Fig. 208)

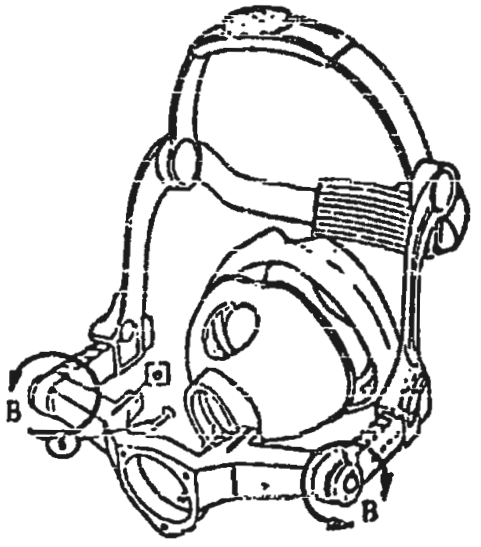
C (1) No binding allowed at pivots (B) so that full force of
C torsion springs will cause bottom of face cone to press
C against chin.

C NOTE: Since Civil Air Regulations require that this
C crew mask have the capability of being donned
C with one hand within 5 seconds, it is essential
C that all adjustments and pivots operate freely
C and properly.

CR B. Adjust the torsion springs, (Ref. Fig. 209, Item 18) by use
C of nut (Item 17) so that the head strap will snap open
C quickly from the stowed position.

C NOTE: In checking and adjusting masks, also note that the
C cross bar (Item 12) requires L.H. and R.H. springs to
C properly hold the face cone against the chin.

CR C. The torsion springs (Ref. Fig. 209) are manufactured as
C right hand springs. During installation, one spring may
C have to be converted to a left hand spring by rearranging
C the spring using only finger pressure.



HA 2471
M1-5000-35-072

C Crew Supplemental Oxygen Mask
CR Figure 208

(1) The springs are to be wound and installed as shown in Figure 209.

(2) After installing the springs, tighten the adjusting nuts (Item 17) only enough to pull the top strap into its socket. There must be no binding and the top strap must snap sharply into the full open position (approximately 135° rotation from the back strap).

NOTE: This information is provided to familiarize all affected personnel with the proper functioning of the mask. However, only those stations authorized to repair/overhaul this mask should disassemble the mask or replace the torsion springs.

D. When installing the new type top strap, make certain the tail or arm is positioned aftward so it will rest behind the ear of wearer.

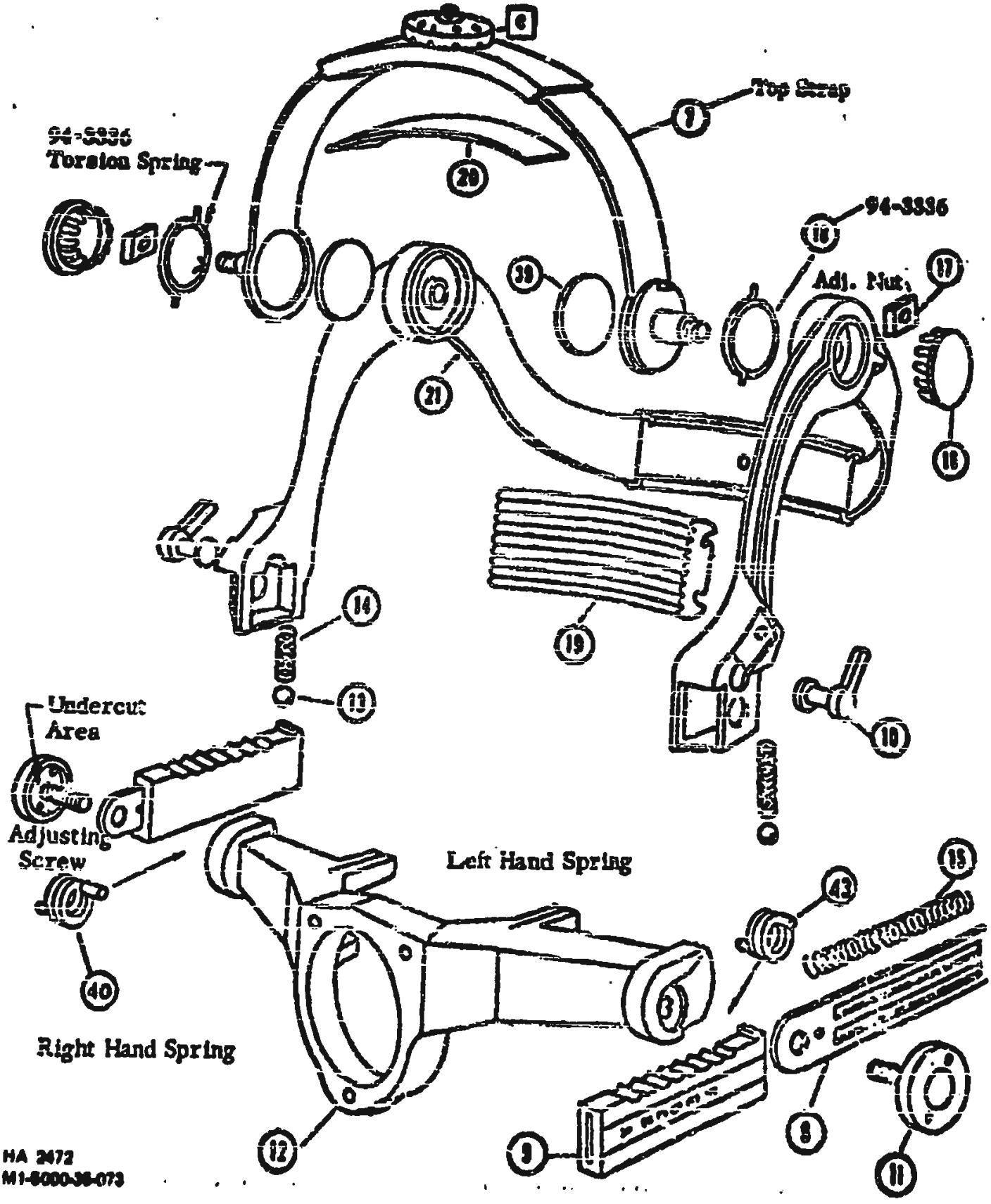
E. Use only under-cut adjusting screws, (Ref. Fig. 209), when assembling a mask. Screw is Puritan P/N 520147, TWA Stk Nbr 94-3342. Use of the obsolete non-under-cut screws will cause binding of the face cone cross bar. Deface and discard non-under-cut screws.

F. Maintenance of Adjustment Marks (Ref. Fig. 205)

(1) The station cleaning a TWA Stk Nbr 294-8200 mask must assure that decal TWA Stk Nbr 94-7462 is installed on both side supports. If the decal is missing or illegible a new one may be installed locally or the mask may be returned to the regional mask testing station for rework.

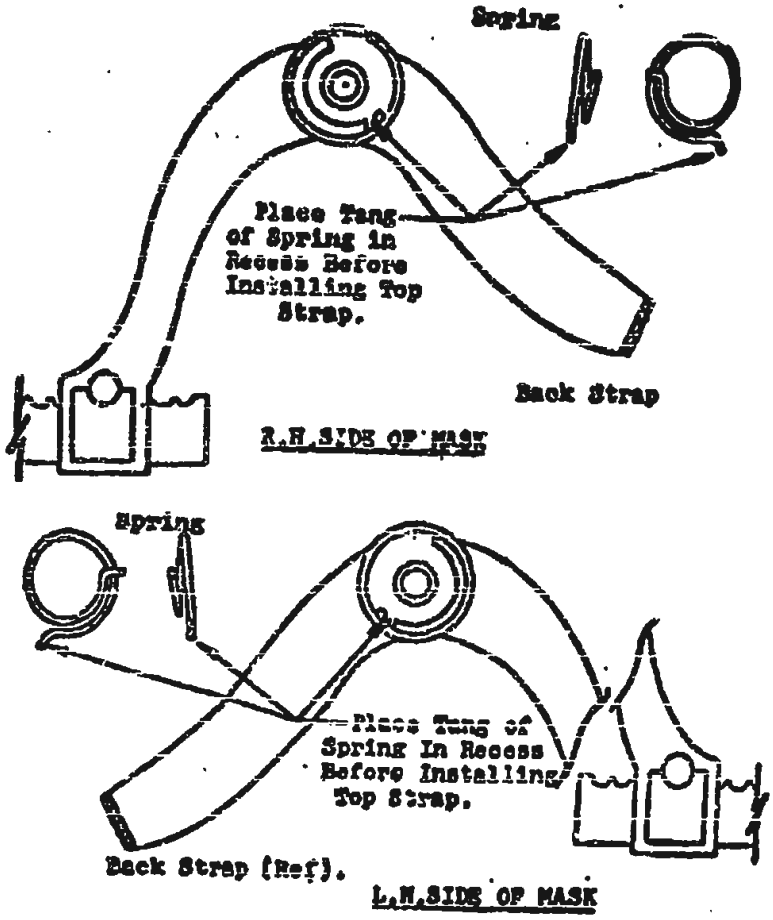
NOTE: If the pivot screw joint is disassembled to facilitate decal installation, refer to "Adjustment and Check - Crew Supplemental Oxygen Mask" for adjustment details necessary to eliminate binding or hang-up of the pivot.

(2) If the numbers on the head strap knobs are not legible they must be restored to legibility either locally or by the regional mask testing station. The engraved numbers may be filled or wiped either with black ink or paint.



C
CR

Crew Oxygen Mask
Figure 209 (Sheet 1)


Spring
Place Tang of Spring in Recess Before Installing Top Strap.
Back Strap
R.H.SIDE OF MASK
Spring
Place Tang of Spring In Recess Before Installing Top Strap.
Back Strap (Ref).
L.H.SIDE OF MASK

HA 2473
M1600B-35-074

C
CR

Crew Oxygen Mask
Figure 209 (Sheet 2)

EFFECTIVITY: ALL

001B

C 9. Crew Oxygen Mask - Hose and Microphone Cord Extensions - Installation Check

C A. The L-1011 certification requirements specify the use of an extension for the crew oxygen mask hose and for the microphone cable on the mask. These extensions are to be considered as fixed aircraft equipment and must not be removed when the mask is removed for cleaning:

C The hose extension is TWA Stk Nbr 94-8328.

C The microphone cable extension is TWA Stk Nbr 96-5027.

C B. During cockpit checking, assure that these extensions are
CR installed between the crew mask (TWA Stk Nbr 294-8200) and
CR the aircrafts plug-in receptacles. The extensions are
C required at the Captain, First Officers, Flight Engineer and
C First Observer positions. The Second Observer position
C requires a standard rubber oro-nasal mask (TWA Stk Nbr
C 294-8062) without an extension.

10 COCKPIT OXYGEN EQUIPMENT SUMMARY

REQUIRED STOWED OXYGEN EQUIPMENT
COCKPIT POSITIONS

PLANE TYPE	CAPT	F/O	F/E	2ND OFFICER (1ST ACM)	2ND OBSERVER (2ND ACM)	AFT COCKPIT AREA
L-1011	①④⑤	①④⑤	①④⑤	①④⑤	②	③

① ONE EACH PURITAN SWEEP - ON SUPPLEMENTAL OXYGEN MASK TWA STK. NBR. 294-8200 HANGING IN QUICK RELEASE HANGER

② ONE EACH SUPPLEMENTAL ORO-NASAL MASK TWA STK. NBR. 294-8062 STOWED IN POUCH OR BOX

③ ONE EACH PROTECTIVE FULL-FACE (SMOKE) MASK TWA STK. NBR. 292-6215 STOWED ADJACENT TO AND CONNECTED TO PORTABLE OXYGEN CYLINDER TWA STK. NBR. 12293

④ ONE EACH SMOKE GOGGLE TWA STK. NBR. 47-2008 IN POUCH, BOX OR HOLDER

⑤ WITH HOSE AND MIC CORD EXTENSIONS FOR SUPPLEMENTAL OXYGEN MASK TWA STK. NBR. 294-8170. HOSE AND MIC CORD EXTENSION P/N AS FOLLOWS:

L-1011: HOSE EXT. TWA STK. NBR. 94-8328/MIC CORD EXT. TWA STK. NBR. 96-2433

C CREW OXYGEN SYSTEM - ADJUSTMENT AND TEST

C 1. Equipment and Materials

C Oxygen System Leak Detector, MIL-L 25567, or equivalent

C 2. Adjustment/Test

C A. Leakage Test

C WARNING: FIRE OR EXPLOSION CAN RESULT FROM CONTAMINATES
C CONTACTING HIGH PRESSURE OXYGEN. CARE MUST BE
C TAKEN, WHEN WORKING WITH OXYGEN LINES AND
C EQUIPMENT, NOT TO ALLOW ANY TRACE OF OIL, GREASE,
C DIRT, LINT, OR ANY COMBUSTIBLE LIQUID, GAS, OR
C SOLID TO COME IN CONTACT WITH OXYGEN.

C GAGES MUST BE RESTRICTED TO USE WITH OXYGEN ONLY.

C VERIFY THAT AIRCRAFT IS ELECTRICALLY GROUNDED.

C PROVIDE ADEQUATE VENTILATION TO PREVENT HIGH
C CONCENTRATION OF OXYGEN.

C (1) Check gage on fixed oxygen cylinder in flight
C compartment (Ref. Fig. 501). Record pressure.

C (2) At each OXYGEN REGULATOR panel, place
C EMERGENCY-NORMAL-TEST MASK switch in NORMAL position.

C (3) Place each 100% OXYGEN-NORMAL OXYGEN in NORMAL OXYGEN
C position.

C (4) Place each SUPPLY switch in OFF position.

C (5) Place cylinder valve in ON position.

C CAUTION: WHEN PRESSURIZING SYSTEM, OPEN CYLINDER VALVE
C SLOWLY.

C (6) Record time, and cylinder pressure.

C (7) Allow 5 minutes for system pressure to stabilize.

C (8) Place each SUPPLY switch in ON position.

C (9) Maintain system pressurized condition for 1 hour.

C C (10) System pressure must remain constant at 70 (±20) psig as indicated on demand regulators.

C C (11) Verify that cylinder pressure does not decrease as indicated on cylinder gage.

C C C C CAUTION: DO NOT ALLOW LEAK DETECTOR SOLUTION TO ENTER VALVES OR FITTINGS. ALL TESTED PARTS MUST BE WIPED CLEAN AND DRY, IMMEDIATELY AFTER TEST, USING CLEAN RAGS.

CR CR CR (12) Assure that cylinder is properly positioned (Ref. Fig. 401) so that there are no kinks in overboard discharge line or supply line.

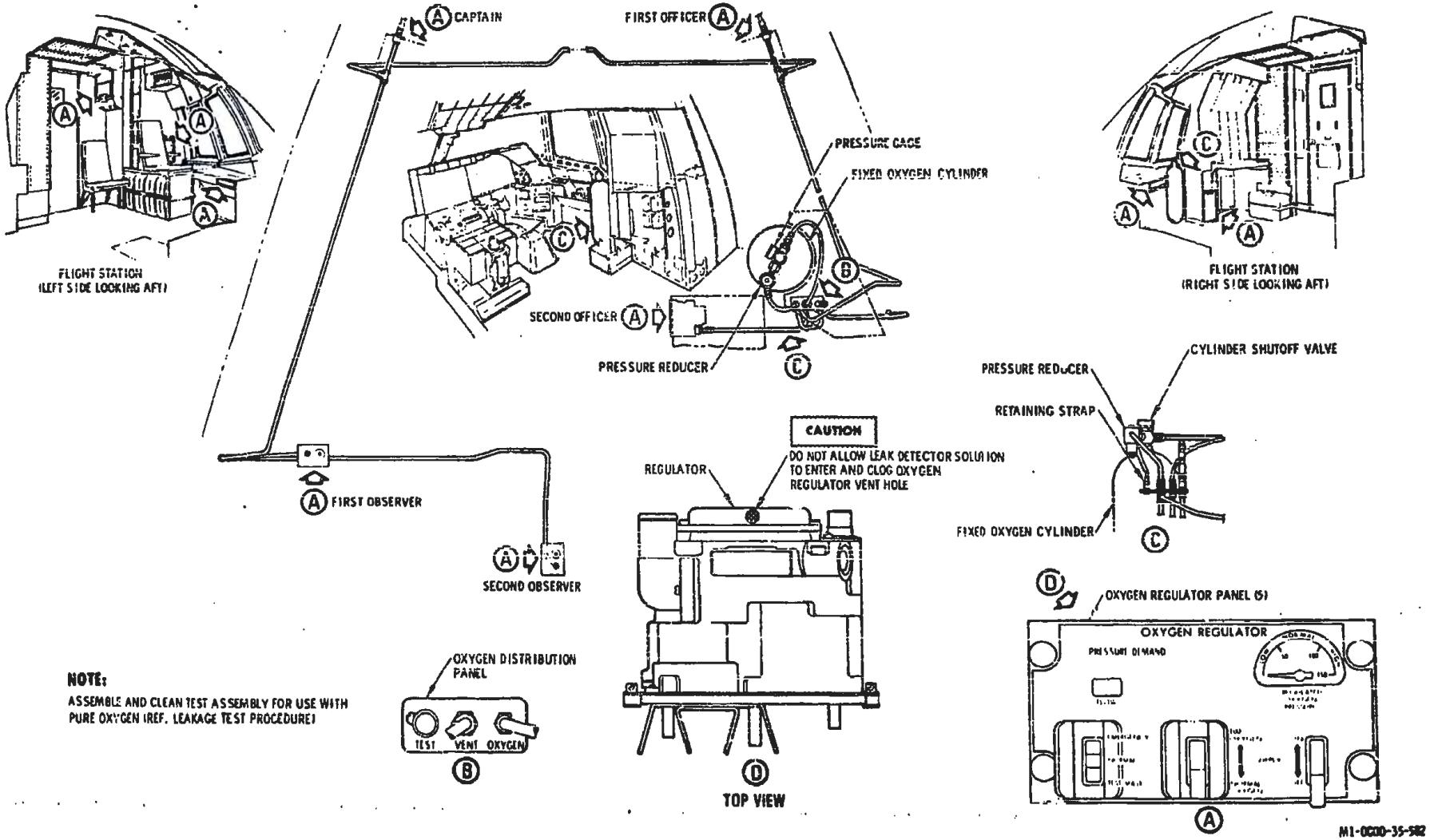
R (13) Check for leaks if required using leak detector solution. Repair leaks as required.

CAUTION: DO NOT ALLOW LEAK DETECTOR SOLUTION TO ENTER VALVES OR FITTINGS. ALL TESTED PARTS MUST BE WIPED CLEAN AND DRY IMMEDIATELY AFTER TEST USING CLEAN RAGS.

DO NOT ALLOW LEAK DETECTOR SOLUTION TO ENTER AND CLOG OXYGEN REGULATOR VENT HOLE (Ref. Fig. 501).

R (14) Shut off bottle valve.

R (15) Close all demand regulator valves.



M1-0000-35-582

C C Oxygen System Leakage Test Set
Figure 501

R R 0038 EFFECTIVITY: ALL

CREW OXYGEN SYSTEM - CLEANING AND PAINTING

1. Equipment and Materials

Oxygen System Leak Detection Compound MIL-L-25567A

Dry Nitrogen, BB-N-411, Type 1, Class 1, Grade B, or equivalent

R Trichlorotrifluoroethane, (Freon), MIL-C-81302, or equivalent

Pressure Plugs, Resistoflex P/N R44119P-05, R44119P-06

Pressure Caps, Resistoflex P/N R44117P-05, R44117P-06

500-CC Plastic Container with Cover

Filter Paper

Clear PVC Tubing

Molded Polyethylene Plugs, Niagara Plastics Co. Model DP, or equivalent

Molded Polyethylene Caps, Niagara Plastics Co. Model DC, or equivalent

Polyethylene Bags, 0.004" thickness

Protected-Wire Ties, Twistem, Gard-N-Tye, or equivalent

Low-Pressure, Air Driven Freon Pump with Crew Oxygen System Attachment

2. Referenced Procedure

35-11-00 Leakage Test

3. Distribution System Flushing Procedure

WARNING: FIRE OR EXPLOSION CAN RESULT FROM CONTAMINATES CONTACTING HIGH-PRESSURE OXYGEN. CARE MUST BE TAKEN, WHEN WORKING WITH OXYGEN LINES AND EQUIPMENT, NOT TO ALLOW ANY TRACE OF OIL, GREASE, DIRT, LINT, OR ANY COMBUSTIBLE LIQUID, GAS, OR SOLID TO COME IN CONTACT WITH OXYGEN.

GAGES MUST BE RESTRICTED TO USE WITH OXYGEN ONLY.

VERIFY THAT AIRCRAFT IS ELECTRICALLY GROUNDED.

PROVIDE ADEQUATE VENTILATION TO PREVENT HIGH CONCENTRATION OF OXYGEN.

PLASTIC PLUGS, CAPS, CLOSURES, AND BAGS MUST BE CLEAN, UNUSED, AND IMMEDIATELY DISCARDED FOLLOWING ONE-TIME USE.

A. Preparation

(1) Close ON-OFF valve on crew stationary oxygen cylinder.

(2) Disconnect flexible distribution hose at OXY fitting on oxygen distribution panel (Ref. Fig. 701); immediately cap and plug open fittings.

CR
CR NOTE: Flex lines may have been replaced with rigid tubes (TW Control No. 473-548ML-005).

(3) Disconnect flexible overboard-discharge hose at VENT fitting on oxygen distribution panel; immediately cap and plug open fittings.

CR
CR NOTE: Flex lines may have been replaced with rigid tubes (TW Control No. 473-548ML-005).

WARNING: HANDLE THE OXYGEN HOSE/CYLINDER ASSEMBLY WITH EXTREME CARE. DO NOT BUMP, SCRATCH, OR DENT THE OXYGEN CYLINDER.

(4) Pull locking pin from oxygen cylinder quick-disconnect retaining strap. Release retaining-strap clamp, remove and temporarily store the oxygen hose/cylinder assembly in a clean, protected location.

(5) Disconnect and remove tube at TEST fitting below oxygen distribution panel and at tee in line below OXY fitting. Immediately cap and plug open fittings (Ref. Fig. 701).

(6) Loosen four Dzus fasteners at each of five panel-mounted regulator assemblies (Ref. Fig. 702).

(7) Disconnect flexible hose at each of five regulator inlets; immediately cap and plug open fittings (Ref. Fig. 703).

B. System Flush

CAUTION: DO NOT ALLOW FLUID TO ENTER ANY OXYGEN SYSTEM COMPONENT OTHER THAN TUBING. FREON WILL SWELL AND DAMAGE SILICON SEALS WITHIN THE PANEL MOUNTED QUICK DISCONNECTS. DO NOT ALLOW FLUID TO DRIP ONTO ANY PORTION OF THE FLIGHT STATION.

(1) Connect freon pump output to OXY fitting on oxygen distribution panel (Ref. Fig. 701).

(2) Uncap distribution tubing at Second Observers station and connect clear PVC tubing so as to drain freon into clean container (Ref. Fig. 703).

(3) Flush a minimum of two pints of freon through Second Observers station while observing output for color, moisture, and particle contamination. If any color or particle contamination occurs, continue flushing until freon is completely colorless and free of moisture and particles.

NOTE: Recommend straining freon through filter paper to reveal particle contamination which could cause regulator malfunction or regulator filter clogging.

(4) Collect a 50-cc sample of freon in a clean, covered, plastic container.

(5) Disconnect drain tube and cap open fitting.

(6) Repeat Steps (2), (3), (4), and (5) for the Observers, Captains, First Officers, and Flight Engineer/Second Officers stations. Label sample bottle with aircraft serial number and date, and submit to laboratory for analysis along with a control sample of freon taken from its original container.

(7) Disconnect freon pump output from OXY fitting and cap OXY fitting.

(8) Connect freon pump output to VENT fitting on oxygen distribution panel.

(9) On exterior of aircraft remove retaining ring and green frangible disc at overboard-discharge tube outlet (Ref. Fig. 704).

(10) Flush a minimum of two pints of freon through overboard-discharge tube while observing output for color, moisture, and particle contamination. If any contamination occurs, continue flushing until freon is completely colorless and free of moisture and particles.

(11) Disconnect freon pump output from VENT connector and cap VENT connector.

(12) Bench flush with freon tube removed in Step 3A(5).

(13) Connect dry-nitrogen output to the tube flushed in Step 3B(12).

(14) Purge tube of all evidence of freon. Disconnect nitrogen and immediately plug open fittings.

(15) Connect dry-nitrogen output to VENT fitting on oxygen distribution panel.

(16) Purge overboard-discharge tube of all evidence of freon.

(17) Install green frangible disc and retaining ring removed in Step 3B(9).

(18) Disconnect nitrogen and cap open fitting.

(19) Connect dry-nitrogen output to OXY fitting(Ref. Fig. 701).

(20) Beginning at Second Observers station, purge all oxygen outlets until all evidence of freon has been eliminated. Immediately cap fittings when tubing is clean and dry.

On aircraft C32-999,to enable purging of freon from low point in oxygen distribution tubing, disconnect captive pressure cap and connect clear PVC tubing to drain tee located below flight station floor beam FS 176 (Ref. Fig. 703). Immediately cap tee fitting when tubing is clean and dry.

CAUTION: DO NOT EXCEED DYNATUBE FITTING TORQUE RANGES: -4 SIZE, 120-168 INCH-POUNDS; -5 SIZE, 132-180 INCH-POUNDS; -6 SIZE, 180-300 INCH-POUNDS. USE BACKUP WRENCH.

(21) Connect regulator hose at each of five regulator inlets.

(22) Connect tube between TEST fitting and tee in line below OXY fitting.

NOTE: Do not reinstall console panels or trim panels until after leakage test performed.

(23) Install oxygen hose/cylinder assembly with pressure gage visible from an inboard position. Secure in position with over-center clamp on restraining strap. Install locking pin in clamp.

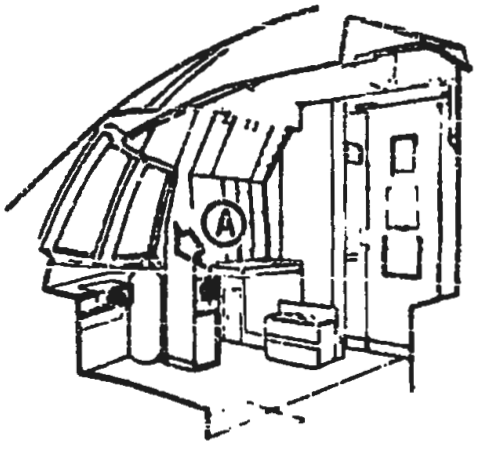
C CAUTION: ASSURE THAT CYLINDER IS PROPERLY POSITIONED SO
C THAT THERE ARE NO KINKS IN OVERBOARD DISCHARGE
CR LINE OR SUPPLY LINE. IF FLEX LINES HAVE BEEN
CR REPLACED WITH RIGID TUBES, POSITION CYLINDER SO
CR LINES CAN BE CONNECTED WITH VERY LITTLE OR NO
CR PRE-LOAD: RIGID LINES MAY BE SLIGHTLY RESHAPED IF
CR NECESSARY (TW CONTROL NO. 473-548ML-005).

(24) Connect flexible overboard-discharge hose at VENT fitting on oxygen distribution panel.

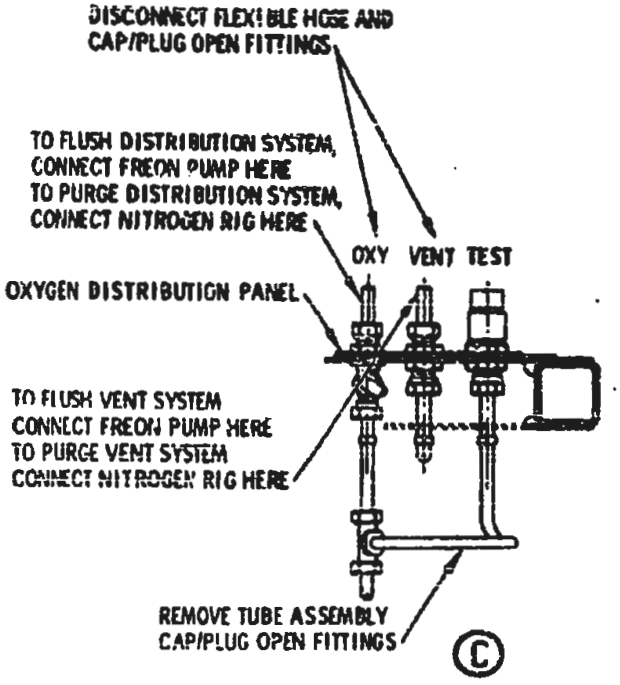
(25) Connect flexible distribution hose at OXY fitting.

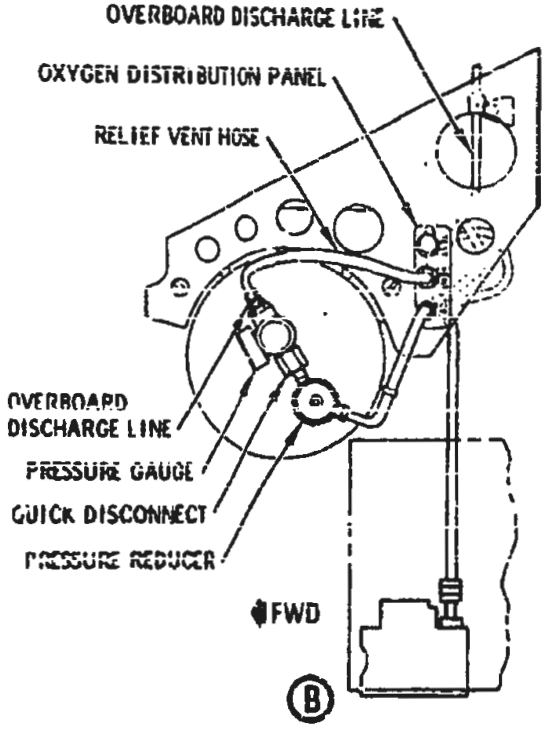
(26) Perform leakage test (Ref. 35-11-00).

(27) Install five panel-mounted regulators.

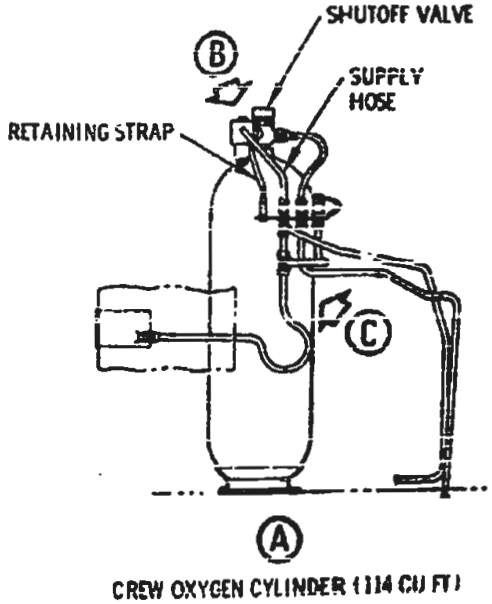


FLIGHT STATION
RIGHT SIDE


DISCONNECT FLEXIBLE HOSE AND CAP/PLUG OPEN FITTINGS
TO FLUSH DISTRIBUTION SYSTEM, CONNECT FREON PUMP HERE
TO PURGE DISTRIBUTION SYSTEM, CONNECT NITROGEN RIG HERE
OXY
VENT
TEST
OXYGEN DISTRIBUTION PANEL
TO FLUSH VENT SYSTEM CONNECT FREON PUMP HERE
TO PURGE VENT SYSTEM CONNECT NITROGEN RIG HERE
REMOVE TUBE ASSEMBLY CAP/PLUG OPEN FITTINGS
C



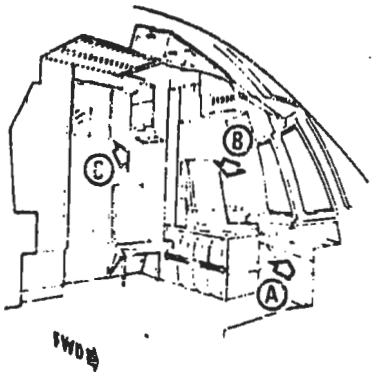
CREW OXYGEN CYLINDER/DISTRIBUTION PANEL
TOP VIEW



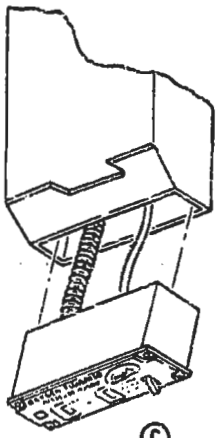
CREW OXYGEN CYLINDER (114 CU FT)

CR
CR
CR

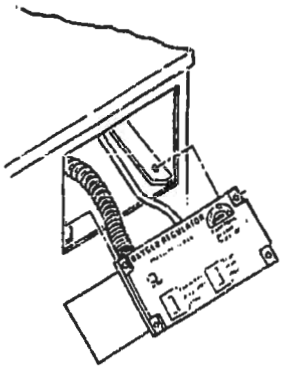
Flush and Purge Connections
Oxygen Distribution Panel
Figure 701



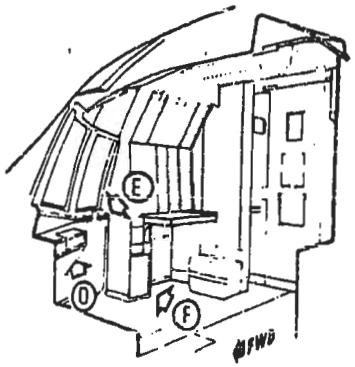
LEFT HAND SIDE



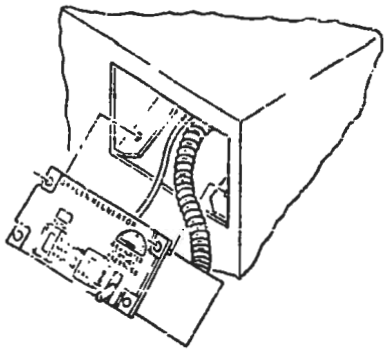
Ⓒ
SECOND OBSERVERS OXYGEN REGULATOR



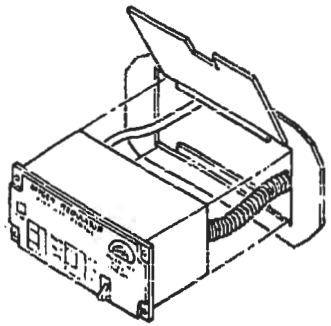
Ⓓ
FIRST OFFICERS OXYGEN REGULATOR



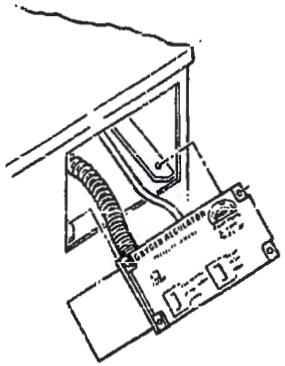
RIGHT HAND SIDE



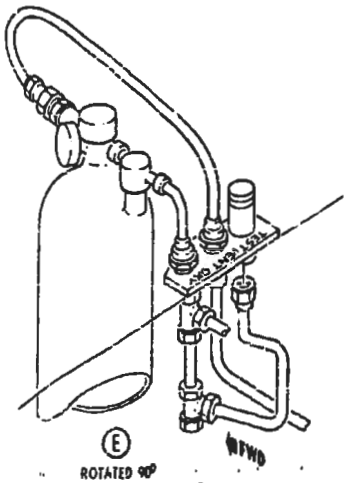
Ⓐ
CAPTAINS OXYGEN REGULATOR



Ⓑ
SECOND OBSERVERS OXYGEN REGULATOR



Ⓕ
FLIGHT ENGINEERS OXYGEN REGULATOR

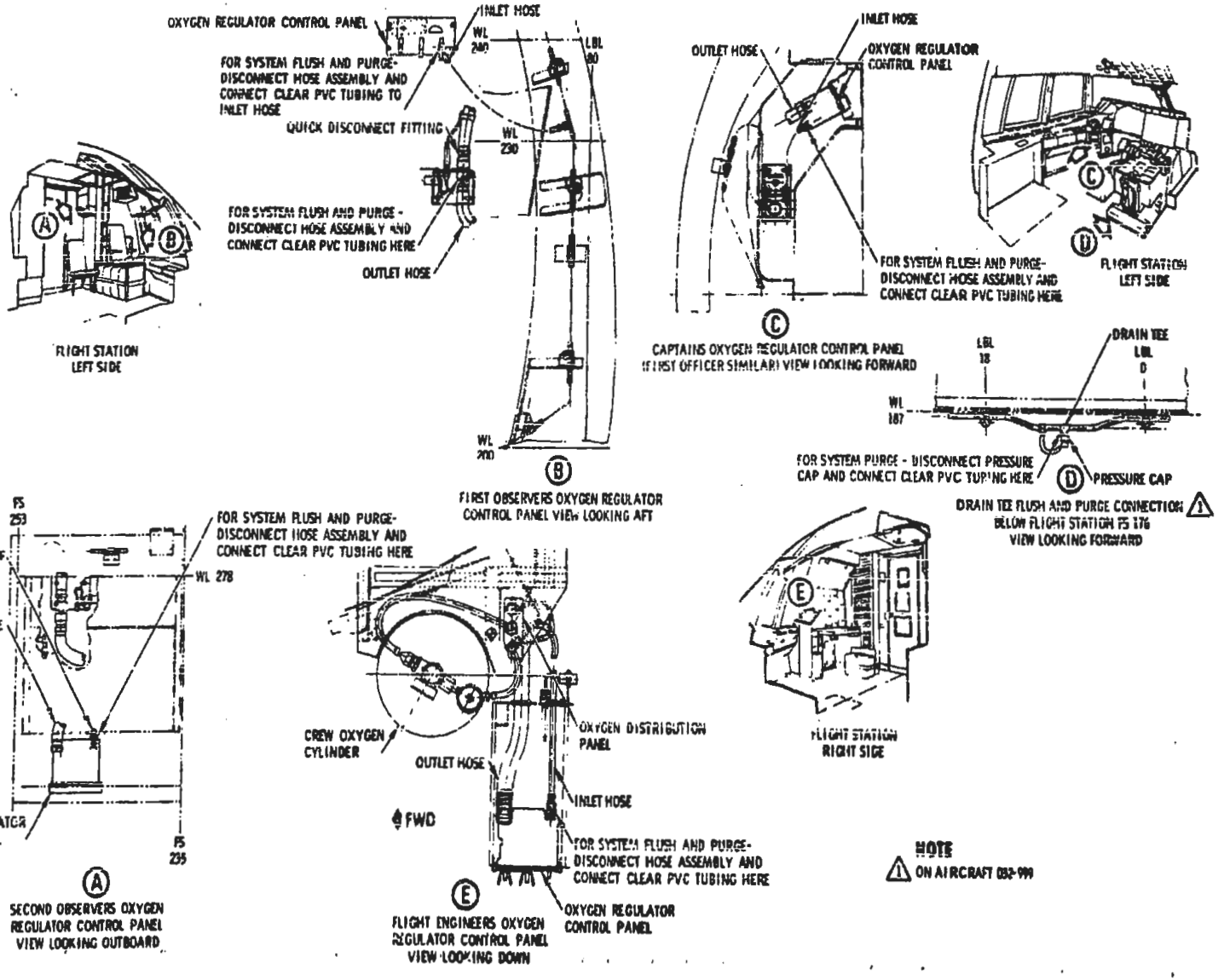


Ⓔ
ROTATED 90°
OXYGEN DISTRIBUTION PANEL

R
R Crew Oxygen System Flush Access
Figure 702

EFFECTIVITY: ALL

001A

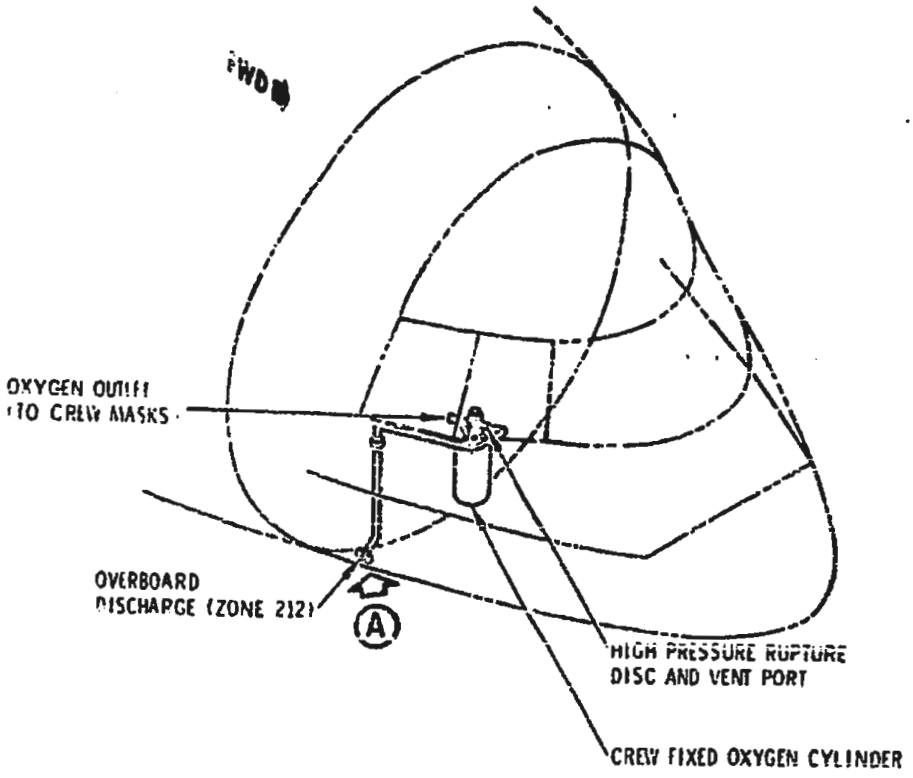

OXYGEN REGULATOR CONTROL PANEL
INLET HOSE
WL 240
LBL 80
FOR SYSTEM FLUSH AND PURGE- DISCONNECT HOSE ASSEMBLY AND CONNECT CLEAR PVC TUBING TO INLET HOSE
QUICK DISCONNECT FITTING
WL 230
FOR SYSTEM FLUSH AND PURGE - DISCONNECT HOSE ASSEMBLY AND CONNECT CLEAR PVC TUBING HERE
OUTLET HOSE
WL 200
A
B
RIGHT STATION LEFT SIDE
FIRST OBSERVERS OXYGEN REGULATOR CONTROL PANEL VIEW LOOKING AFT
OUTLET HOSE
INLET HOSE
OXYGEN REGULATOR CONTROL PANEL
FOR SYSTEM FLUSH AND PURGE- DISCONNECT HOSE ASSEMBLY AND CONNECT CLEAR PVC TUBING HERE
C
D
FLIGHT STATION LEFT SIDE
CAPTAINS OXYGEN REGULATOR CONTROL PANEL (FIRST OFFICER SIMILAR) VIEW LOOKING FORWARD
LBL 18
LBL 0
DRAIN TEE
WL 187
FOR SYSTEM PURGE - DISCONNECT PRESSURE CAP AND CONNECT CLEAR PVC TUBING HERE
PRESSURE CAP
DRAIN TEE FLUSH AND PURGE CONNECTION ⚠1
BELOW FLIGHT STATION FS 176
VIEW LOOKING FORWARD
FS 253
INLET HOSE
WL 278
FOR SYSTEM FLUSH AND PURGE- DISCONNECT HOSE ASSEMBLY AND CONNECT CLEAR PVC TUBING HERE
OUTLET HOSE
OXYGEN REGULATOR CONTROL PANEL
FS 235
A
SECOND OBSERVERS OXYGEN REGULATOR CONTROL PANEL VIEW LOOKING OUTBOARD
CREW OXYGEN CYLINDER
OUTLET HOSE
OXYGEN DISTRIBUTION PANEL
INLET HOSE
FWD
FOR SYSTEM FLUSH AND PURGE- DISCONNECT HOSE ASSEMBLY AND CONNECT CLEAR PVC TUBING HERE
OXYGEN REGULATOR CONTROL PANEL
E
FLIGHT ENGINEERS OXYGEN REGULATOR CONTROL PANEL VIEW LOOKING DOWN
E
FLIGHT STATION RIGHT SIDE
NOTE
⚠1 ON AIRCRAFT 052-999

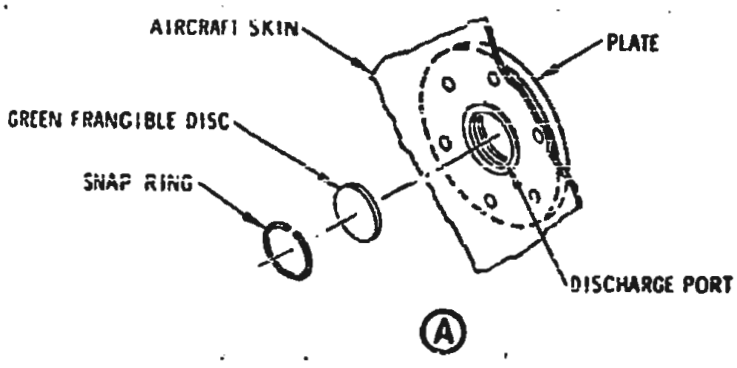
M1-0000-35-560

Crew Oxygen Distribution System
Flush and Purge Connections
Figure 703

EFFECTIVITY: ALL

001B





MI-0001-35-012

Oxygen Overboard Discharge Indicator
Figure 704

EFFECTIVITY: ALL

RR 001B

FIXED BREATHING OXYGEN CYLINDER - REMOVAL AND INSTALLATION

1. Equipment and Materials

Oxygen System Leak Detection Compound, MIL-L-25567, or equivalent

Protective caps and plugs

PTFE TAPE, MIL-T-27730

2. Removal/Installation

WARNING: DO NOT CONTAMINATE THE OXYGEN SYSTEM OR ANY COMPONENT WITH GREASE OR OIL. DO NOT BUMP, SCRATCH OR DENT THE OXYGEN CYLINDER.

CR CR CR CR CR IF PASSENGERS AND/OR CREWMEMBERS ARE ON BOARD THE AIRCRAFT DURING AN OXYGEN BOTTLE REPLACEMENT (OTHER THAN PORTABLE OXYGEN BOTTLES), ASSURE THAT THE EMERGENCY LIGHT CONTROL SWITCH IN THE COCKPIT IS IN THE "ARM" POSITION.

A. Removal

CAUTION: CLOSE SHUTOFF VALVE FINGER-TIGHT ONLY TO AVOID DAMAGING THE VALVE SEAT.

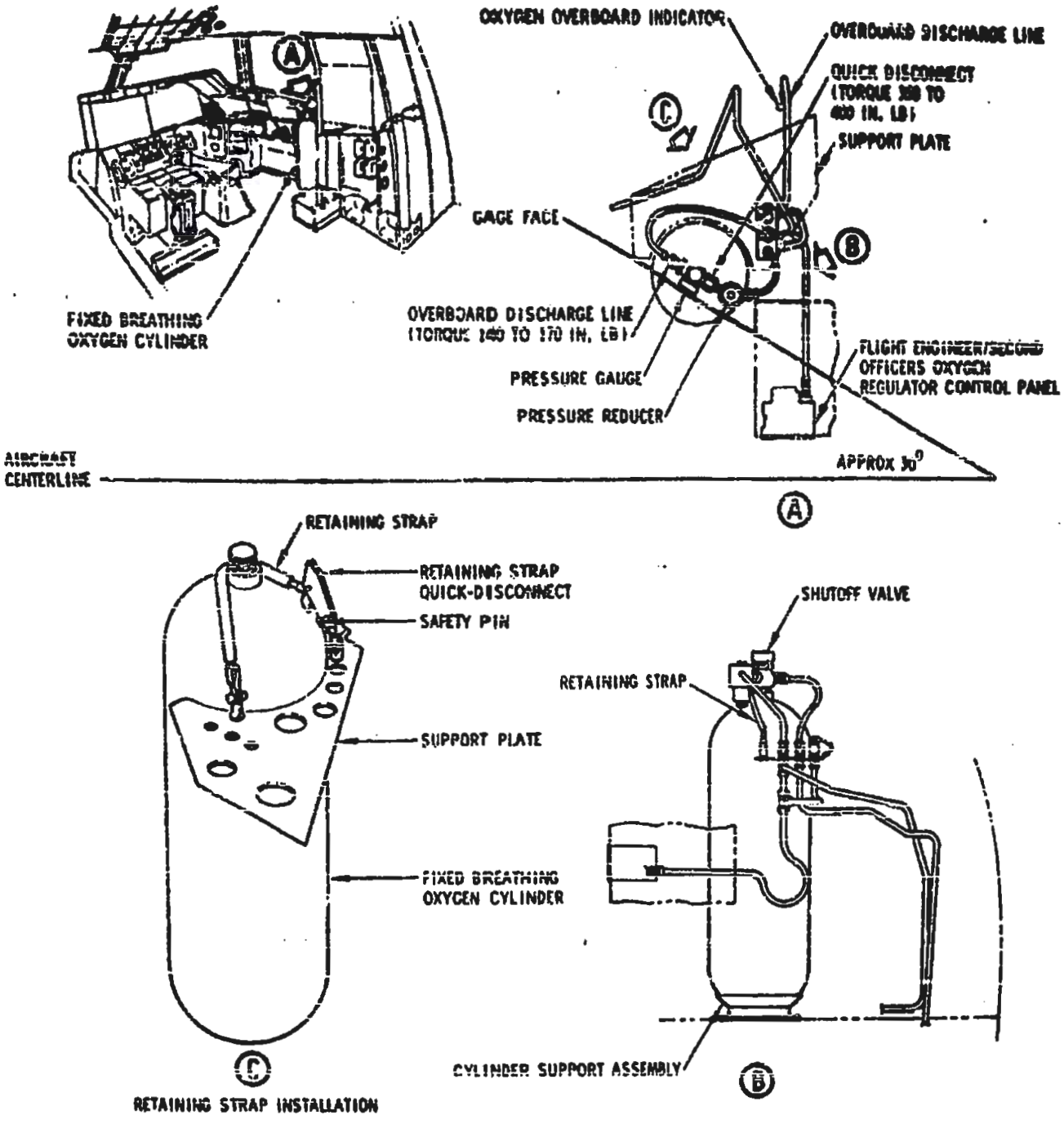
(1) Turn off crew oxygen by closing slow-opening shutoff valve on oxygen cylinder located outboard and aft of First Officer, zone 212 (Ref. Fig. 401). Two and one-half to six turns are required to close the valve fully.

(2) Place any OXYGEN REGULATOR panel control toggle in EMERGENCY position until oxygen flow ceases, then return to NORMAL position (Ref. Fig. 401).

(3) Remove pressure regulator and overboard discharge line from oxygen cylinder valve.

C C NOTE: Flex lines may have been replaced with rigid tubes (TW Control No. 473-548ML-005).

(4) Use clean caps and plugs to seal all openings and prevent contaminats such as dirt, oil, or grease from entering the system.



MI-0000-35-620

CR
CR

Crew Oxygen System Installation
Figure 401

EFFECTIVITY: ALL

002B

(5) Remove safety pin from oxygen cylinder quick-disconnect retaining strap and open strap handle to release strap and remove cylinder.

B. Installation

(1) Place oxygen cylinder in position and fasten with retaining strap. Insert safety pin in strap quick disconnect.

C C NOTE: Check for rubber cushion pad, if missing install with new pad, Stk Nbr 19-4730.

(2) Remove caps and plugs and any contaminants from oxygen cylinder fittings and oxygen line connections.

(3) Ensure pipe threads are clean, apply a maximum of three wraps of PTFE tape, MIL-T-27730, to male thread in opposite direction of thread run, leaving the first two threads clear.

C C CAUTION: ASSURE THAT THERE ARE NO KINKS IN OVERBOARD DISTRIBUTION LINE OR SUPPLY LINE.

(4) Connect the pressure regulator and the overboard discharge line to the oxygen cylinder valve.

C C C C C NOTE: If flex lines have been replaced with rigid tubes, position cylinder so lines can be connected with very little or no preload; rigid lines may be slightly reshaped if necessary (TW Control No. 473-548ML-005).

WARNING: SHUTOFF VALVE MUST BE OPENED SLOWLY OR EXCESSIVE TEMPERATURES MAY RESULT.

(5) Open slow-opening shutoff valve on oxygen cylinder.

WARNING: ONLY AUTHORIZED OXYGEN LEAK-DETECTION COMPOUNDS MAY BE USED FOR TESTS. CLEAN AND DRY ALL CONNECTIONS IMMEDIATELY AFTER TESTING. DO NOT ALLOW LEAK-DETECTION COMPOUND TO ENTER OXYGEN SYSTEM OR COMPONENTS.

(6) Use leak-detection compound on all oxygen line connections to inspect for leaks. Tighten and retest all leaking connections.

CR (7) Return aircraft to normal.

C 3. Deleted

C 4. Post Installation Flow/Odor Check (For Crew Fixed Cylinders Only)

A. To assure that oxidation of an oxygen cylinder valve seat or a line valve seat has not contaminated the oxygen system after initial opening of the cylinder valve, the following procedure must be accomplished after installing a crew oxygen cylinder.

NOTE: Read entire procedure before beginning.

(1) Open crew oxygen cylinder valve and line supply valve (if applicable) slowly per maintenance manual procedures.

(2) Flow oxygen through Captains oxygen mask as follows so that odor of gas in system can be checked:

(a) The quick-don mask (TWA Str Nbr 294-8200) must be plugged into the Captains oxygen supply and should be hanging in its normal position.

(b) Turn the Captains diluter-demand regulator controls to supply "ON", "100% Oxygen" and "Emergency Pressure ON".

(3) If an odor is detected in the oxygen gas, the installed cylinder(s) must be replaced and the supply tubing flushed with clean, dry nitrogen or oxygen.

(a) The supply shut-off valve in the cockpit must also be replaced when a contamination incident has occurred.

(4) The oxygen cylinder(s) and the supply shut-off valve removed as a result of the contamination incident must be promptly returned to MCI Engineering for evaluation.

(a) The cylinder valve outlet port should be tightly capped, if the valve is leaking.

NOTE: This is essential to conserve the remaining oxygen analysis.

CREW BREATHING OXYGEN CYLINDER - INSPECTION AND CHECK

1. Equipment and Materials

Oxygen System Leak Detection Compound, MIL-L-25567, or equivalent

Pressure Gage, 0 to 150 pound-per-square-inch (psig) minimum, with Bruning Co. quick-disconnect fitting, PN 6903-046, or equivalent

2. Inspection/Check

A. Inspection

(1) Check oxygen cylinder, zone 212, for physical damage. Replace if dented or deeply scratched.

C C C (1a) Assure that cylinder is properly positioned (Ref. Fig. 401) so that there are no kinks in overboard discharge line or supply line.

(2) Check that oxygen cylinder retaining strap and support assembly are secure (Ref. Fig. 601).

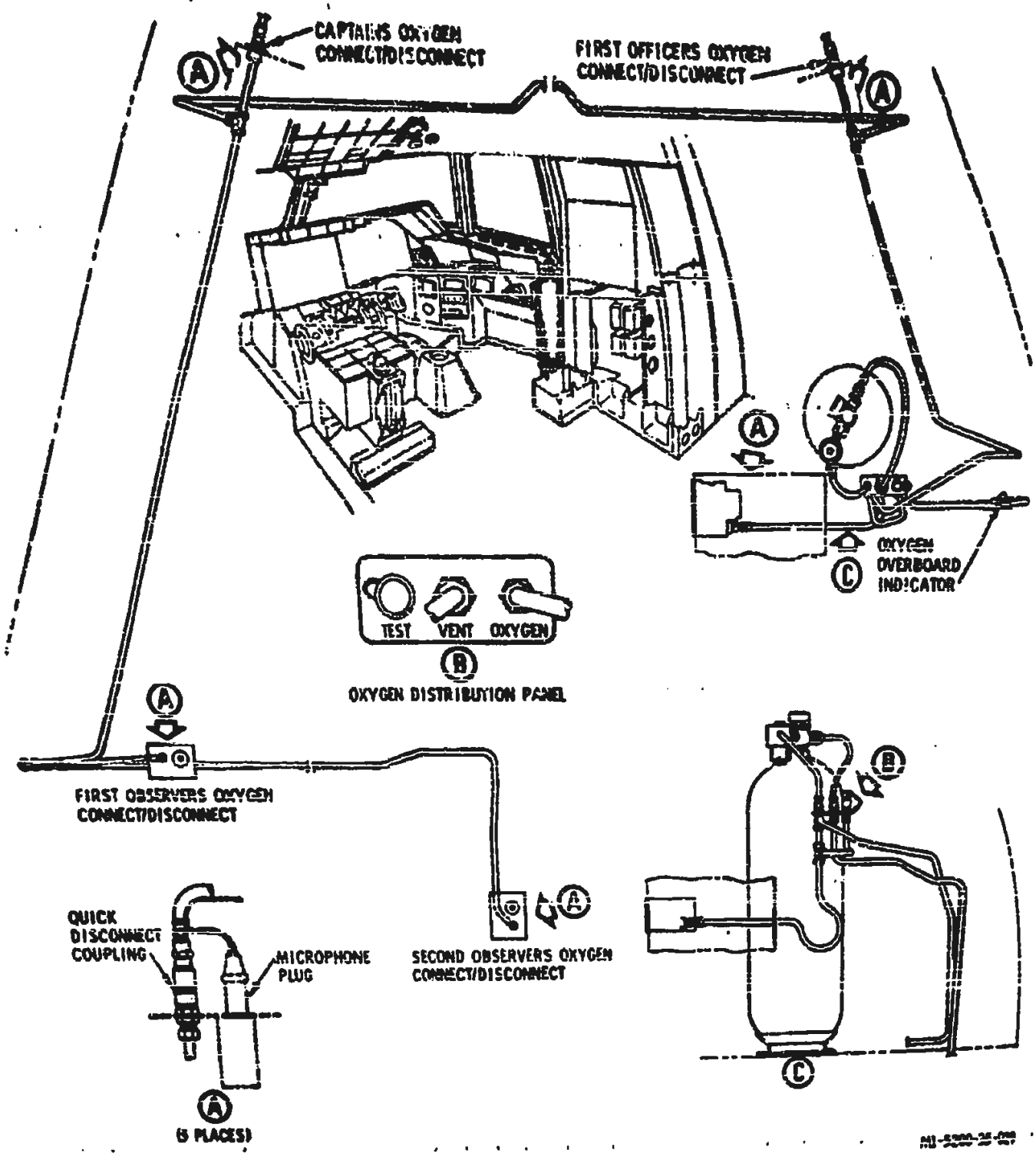
R R (3) Check oxygen cylinder pressure gage for a pressure of 1800 ± 50 psig at 70 degrees F. Replace cylinder if below required pressure for dispatch.

NOTE: Crew oxygen servicing procedures (Ref. 12-14-02) contain a table of gaseous oxygen (Class 1) pressure/temperatures based on a reference fill pressure of 1800 psig at 70°F (21.2°C).

(4) Turn oxygen cylinder ON-OFF valve to ON.

WARNING: ONLY AUTHORIZED OXYGEN LEAK DETECTION COMPOUNDS MAY BE USED FOR TESTS. CLEAN AND DRY ALL CONNECTIONS IMMEDIATELY AFTER TESTING. DO NOT ALLOW LEAK DETECTION COMPOUND TO ENTER OXYGEN SYSTEM OR COMPONENTS.

(5) Use leak detection compound on all connections to inspect for leaks. Tighten and retest all leaking connections.



Crew Stationary Oxygen System Installation
Figure 601

R
R

CAUTION: NEVER TIGHTEN CONNECTOR FITTINGS WITH SYSTEM PRESSURIZED. DO NOT EXCEED DYNATUBE FITTING TORQUE RANGES: -4 SIZE 120-168 INCH POUNDS; -5 SIZE 132-180 INCH-POUNDS; -6 SIZE 180-300 INCH POUNDS. USE BACKUP WRENCH.

(6) Plug pressure gage into quick disconnect TEST coupling on oxygen system distribution panel, zone 215. Replace oxygen cylinder if pressure gage does not read between 50 and 90 psig at 70 degrees.

PANEL-MOUNTED DILUTER-DEMAND OXYGEN REGULATOR REMOVAL AND INSTALLATION

1. General

Removal and installation procedures for the five diluter demand oxygen regulators, zones 211, 212, and 215, are identical except for affected circuit breakers (Ref. Fig. 401).

2. Equipment and Materials

R WARNING: EXERCISE EXTREME CARE TO PREVENT CONTAMINATION OF
R OXYGEN SYSTEM OR ANY COMPONENT BY GREASE OR OIL.

Oxygen System Leak Detection Compound, MIL-L-25567, or equivalent

3. Removal/Installation

A. Removal

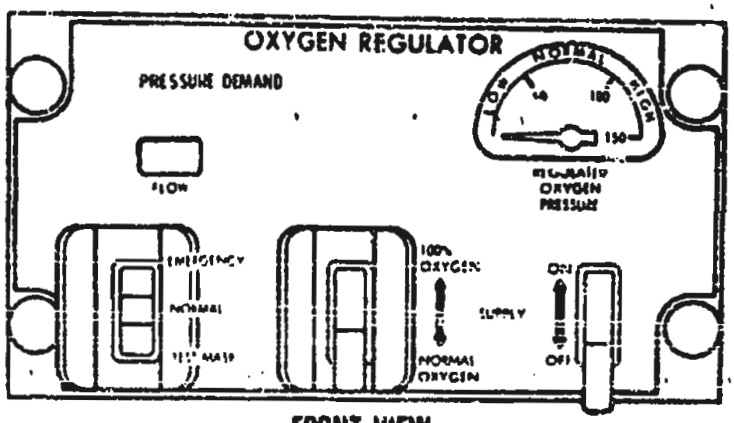
(1) Before removing OXYGEN REGULATOR from Captains, First Observers, or Second Observers station, open and tag circuit breaker 5 VAC INSTRUMENT LIGHTING-CAPT-L on Flight Engineer/Second Officers overhead circuit breaker panel CB2, zone 215.

(2) Before removing OXYGEN REGULATOR from First Officers station, open and tag circuit breaker 5 VAC INSTRUMENT LIGHTING - F/O - R on Flight Engineer/Second Officers overhead circuit breaker panel CB2.

(3) Before removing OXYGEN REGULATOR from Flight Engineer/Second Officers station, open and tag circuit breaker 5 VAC FLT ENGR PANEL LIGHTS - LOWER - NO. 10, on Flight Engineer/Second Officers aft circuit breaker panel CB3, zone 215.

CAUTION: CLOSE SHUTOFF VALVE FINGER-TIGHT ONLY TO AVOID DAMAGING VALVE SEAT.

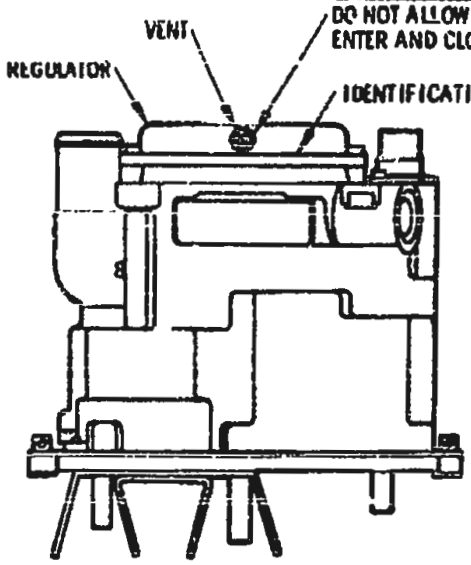
(4) Turn off crew oxygen by closing slow-opening shutoff valve on oxygen cylinder located outboard and aft of First Officer, zone 212. Two and one-half to six turns are required to close valve fully.



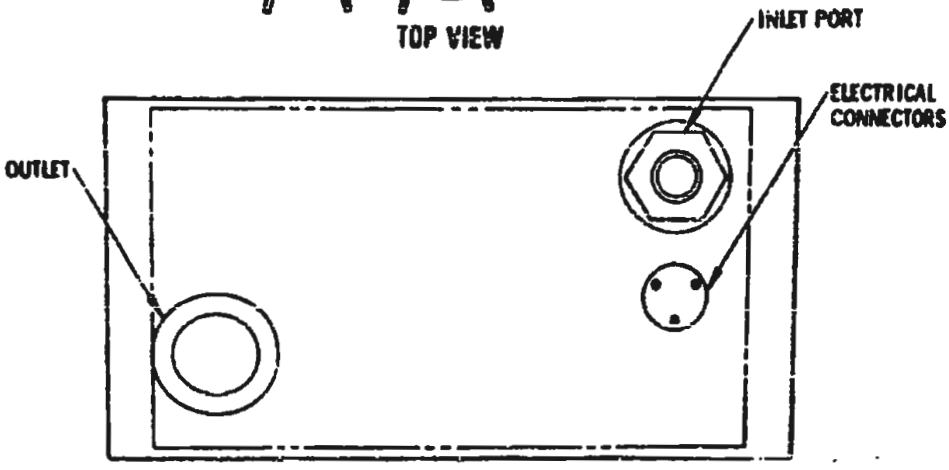
FRONT VIEW

CAUTION

DO NOT ALLOW LEAK DETECTOR SOLUTION TO ENTER AND CLOG OXYGEN REGULATOR VENT HOLE



TOP VIEW



REAR VIEW

M1-0000-35-514

R Panel-mounted Diluter Demand Regulator
R Figure 401

EFFECTIVITY: ALL

(5) Place OXYGEN REGULATOR control toggle in EMERGENCY position until oxygen flow ceases then return control toggle to NORMAL position.

(6) Release front fasteners (dzus-type) on front of OXYGEN REGULATOR panel.

(7) Pull panel forward, disconnect electrical connector, inlet port oxygen line, and outlet oxygen line.

(8) Use clean caps to seal all openings and prevent contaminants such as dirt, oil, or grease from entering oxygen system.

B. Installation

CAUTION: BEFORE INSTALLING NEW REGULATOR, CHECK IT FOR PROPER ASSEMBLY AS FOLLOWS: HOLD REGULATOR UPSIDE DOWN WHILE MOVING CENTER TOGGLE CONTROL ON REGULATOR PANEL. AS CENTER TOGGLE IS MOVED UP TOWARD 100% POSITION, THE DILUTION PORT ON THE BOTTOM OF THE REGULATOR SHOULD CLOSE. CLOSING OF THE DILUTION PORT CAN BE CONFIRMED BY OBSERVING ALUMINUM PISTON, IN DILUTION PORT, SEATING AGAINST ITS MATING RED RUBBER SEAT. IF CENTER TOGGLE OPERATES AS INDICATED ABOVE, REGULATOR IS CORRECTLY ASSEMBLED AND MAY BE INSTALLED.

(1) Verify circuit breaker listed for removal is open.

(2) Remove caps and any contaminants from oxygen line connections, and connect inlet port oxygen line, outlet oxygen line, and electrical connector to OXYGEN REGULATOR panel.

(3) Secure front fasteners (dzus-type) on front of OXYGEN REGULATOR panel.

(4) Place OXYGEN REGULATOR panel controls to OFF, NORMAL OXYGEN, and NORMAL.

WARNING: SHUTOFF VALVE MUST BE OPENED SLOWLY OR EXCESSIVE TEMPERATURE MAY RESULT.

(5) Turn on crew oxygen by opening slow-opening shutoff valve on oxygen cylinder.

WARNING: ONLY AUTHORIZED OXYGEN LEAK DETECTION COMPOUNDS MUST BE USED FOR TESTS. CLEAN AND DRY ALL CONNECTIONS IMMEDIATELY AFTER TESTING. DO NOT ALLOW LEAK DETECTION COMPOUND TO ENTER OXYGEN SYSTEM OR COMPONENTS.

CAUTION: DO NOT ALLOW LEAK DETECTOR SOLUTION TO ENTER AND CLOG OXYGEN REGULATOR VENT HOLE (REF. FIG. 401).

R (6) Use leak detection compound on all oxygen line connections to inspect for leaks. Tighten and retest all leaking connections.

R (7) Remove, tag, and close circuit breaker opened in Step 3A(1), 3A(2), oR 3A(3).

CR

DILUTER_DEMAND_REGULATOR_-_INSPECTION/CHECK

CR 1. Leak_Check_Procedure

CR A. Whenever replacing a demand oxygen regulator or breathing
CR hose (connected to the regulator's outlet fitting), the
CR following leak check must be accomplished after the
CR replacement regulator and/or hose are installed:

CR (1) Using a supplemental type of crew oxygen mask, plug
CR mask firmly into the receptacle supplied by the
CR regulator/hose being checked for leakage.

CR (2) Position the 3 toggles on the regulator at the crew
CR position being checked to positions marked * in Figure
CR 601.

CR (3) While holding face cone of mask very firmly against
CR face, inhale very deeply then exhale very forcefully
CR and suddenly.

CR (a) Immediately take mask away from face and observe
CR position of exhalation valve inside face cone.

CR (b) Exhalation valve must remain open for minimum of 3
CR seconds (See Fig. 601).

CR (4) If exhalation valve does not remain open, try check
CR second time using another mask, assuring that mask hose
CR is firmly connected to receptacle and face cone fits
CR against face with no leakage. Recheck regulator toggle
CR positions per Figure 601.

CR (5) If valve does not remain open a minimum 3 seconds, this
CR indicates a leak exists at either the breathing hose,
CR hose connections or in the demand regulator.

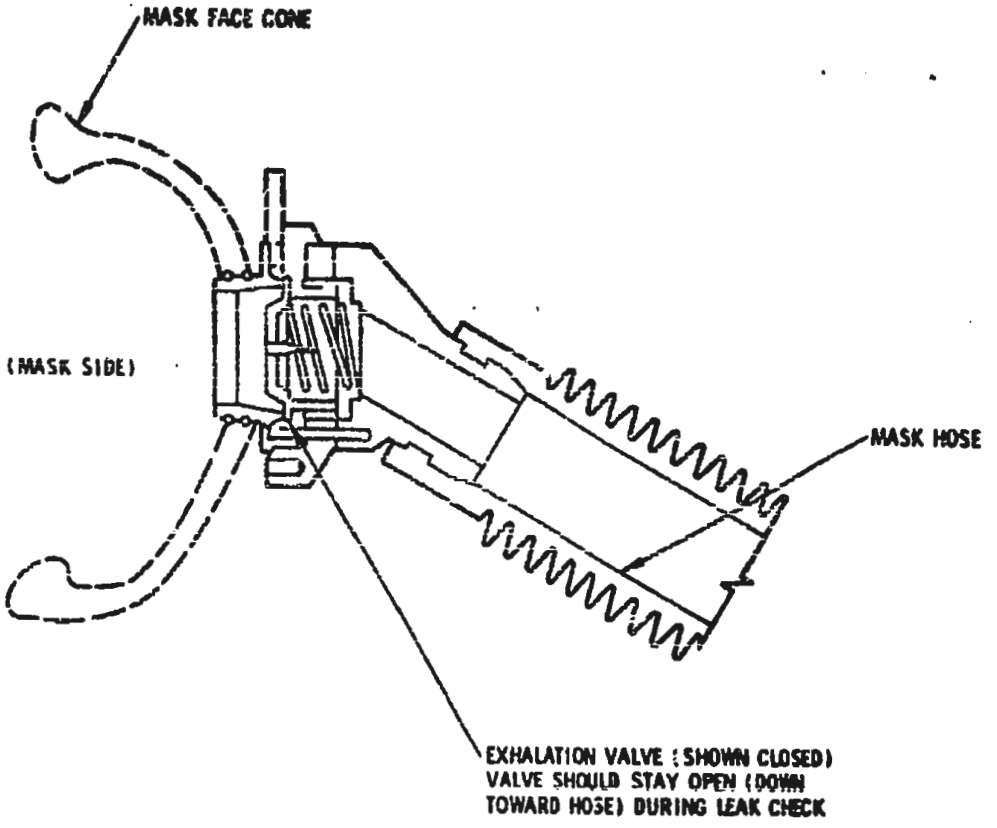
CR (a) The breathing hose and its connections should
CR first be checked for integrity because these are
CR more likely to leak than the regulator.

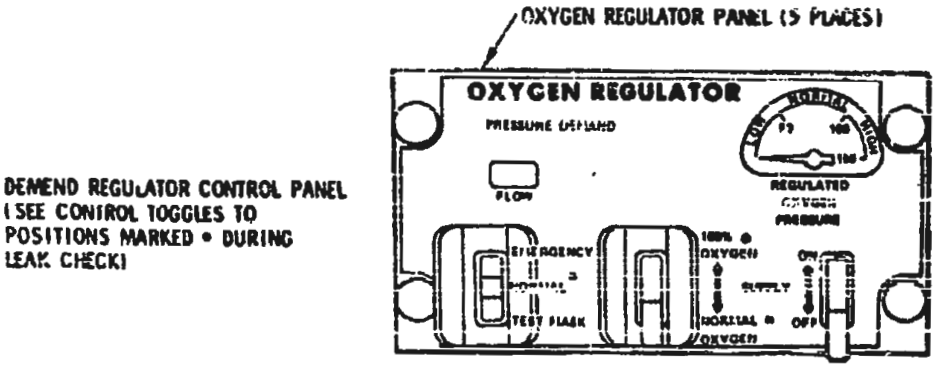
CR (b) If hose and connections appear OK, bypass them by
CR connecting a new hose directly between the mask
CR hose and regulator.

CR (c) If regulator leaks, replace regulator; if no
CR leakage exists in regulator, replace hose and its
CR clamps.

(6) Recheck for leaks per Step (3) above after replacement parts are installed.

(7) If one or more of the existing cockpit masks was used in accomplishing above check, clean mask face cone thoroughly with germicidally treated tissues before hanging mask in its quick release hanger.





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CR Oxygen Regulator/Mask Installation
CR Figure 601

R EFFECTIVITY: ALL
R
002B

QUICK-DISCONNECT CYLINDER RETAINING STRAP REMOVAL AND INSTALLATION

1. Removal/Installation

A. Removal

CAUTION: CLOSE SHUTOFF VALVE FINGER-TIGHT ONLY TO AVOID DAMAGING VALVE SEAT.

(1) Turn off crew oxygen by closing slow-opening shutoff valve on oxygen cylinder located outboard and aft of First Officer, zone 212. Two and one-half to six turns are required to close valve fully.

WARNING: BEFORE REMOVING THE QUICK-DISCONNECT CYLINDER RETAINING STRAP BE SURE TO HAVE A REPLACEMENT STRAP AVAILABLE FOR IMMEDIATE REPLACEMENT. SECURE OXYGEN CYLINDER IN POSITION TO PREVENT ANY MOVEMENT. DO NOT BUMP, SCRATCH, OR DENT THE OXYGEN CYLINDER.

(2) Remove safety pin from oxygen cylinder retaining strap and release strap by opening strap handle (Ref. Fig. 401).

(3) Remove nuts, washers, and screws, securing each end of retaining strap to eye bolts.

B. Installation

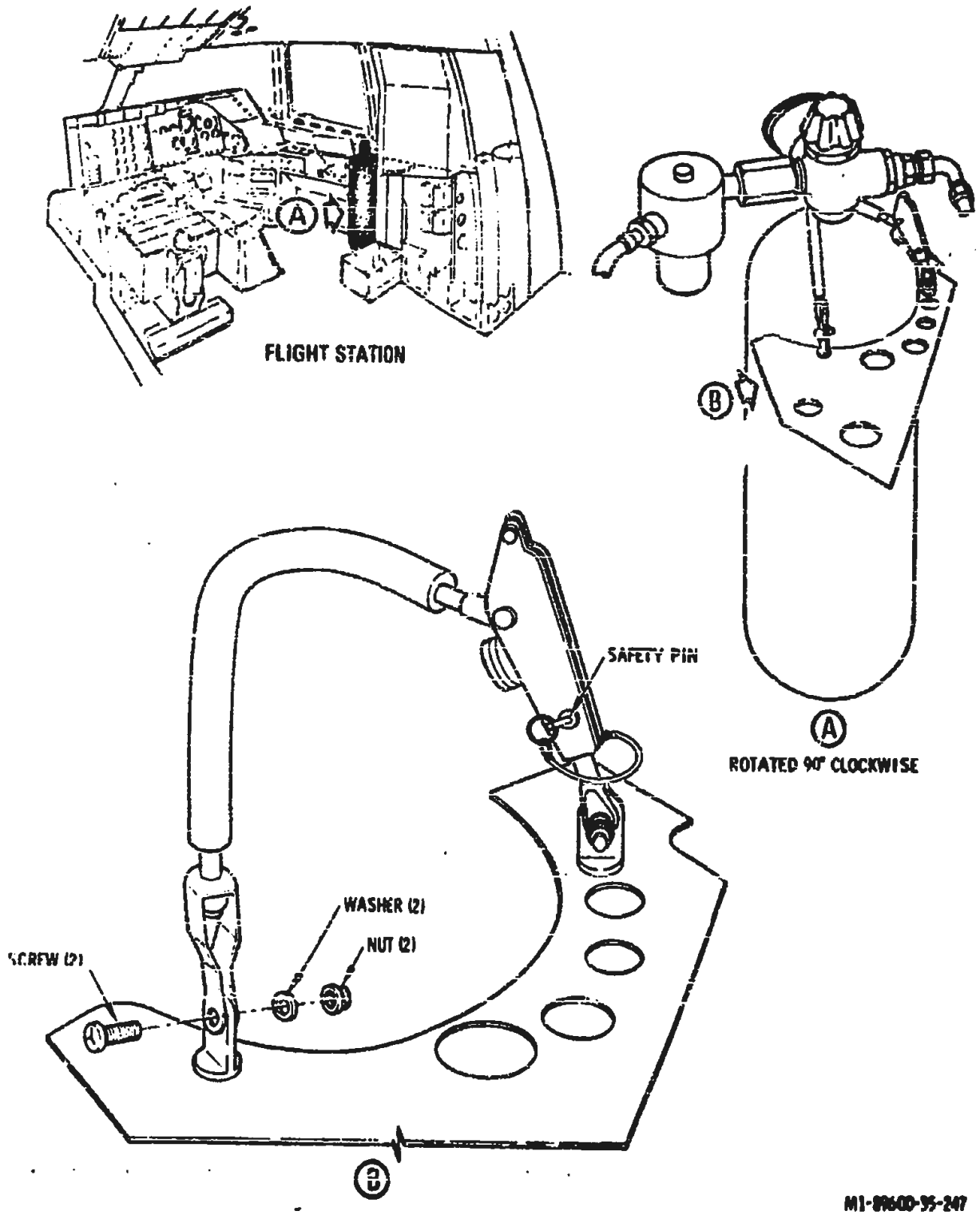
(1) Connect each end of retaining strap to eyebolts with nuts, screws and washers.

R (2) Close strap handle and insert safety pin.

NOTE: The strap length may be adjusted by threading the clevis end in or out of the body.

WARNING: SHUTOFF VALVE MUST BE OPENED SLOWLY OR EXCESSIVE TEMPERATURE MAY RESULT.

(3) Turn on crew oxygen by opening slow-opening shutoff valve on oxygen cylinder.



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CR
CR

Quick-Disconnect Cylinder Retaining Strap
Figure 401

OXYGEN OVERBOARD DISCHARGE INDICATOR - REMOVAL AND INSTALLATION

R R R R R WARNING: FIRE OR EXPLOSION CAN RESULT FROM CONTAMINATES CONTACTING HIGH-PRESSURE OXYGEN. CARE MUST BE TAKEN TO KEEP THE GREEN FRANGIBLE DISC CLEAN, AND PREVENT OIL OR GREASE CONTAMINATION UPON INSTALLATION INTO THE DISCHARGE PORT.

1. Removal/Installation

A. Removal

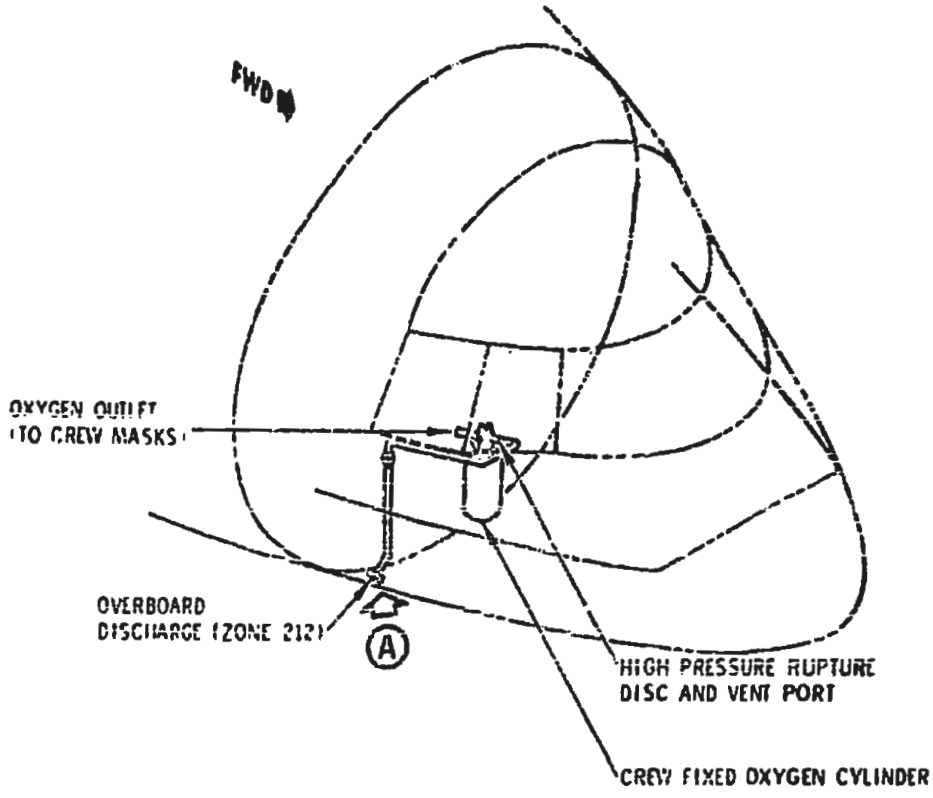
(1) Remove snap ring from discharge port (Ref. Fig. 401), zone 112.

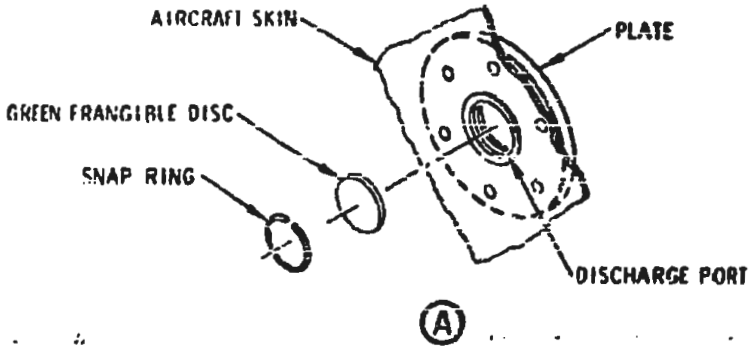
(2) Remove green frangible disc or particles thereof.

B. Installation

(1) Insert green frangible disc into discharge port.

(2) Install snap ring.





MI-0001-35-012

R
R

Oxygen Overboard Discharge Indicator
Figure 401

EFFECTIVITY: ALL

001B

OXYGEN OVERBOARD DISCHARGE INDICATOR - INSPECTION AND CHECK

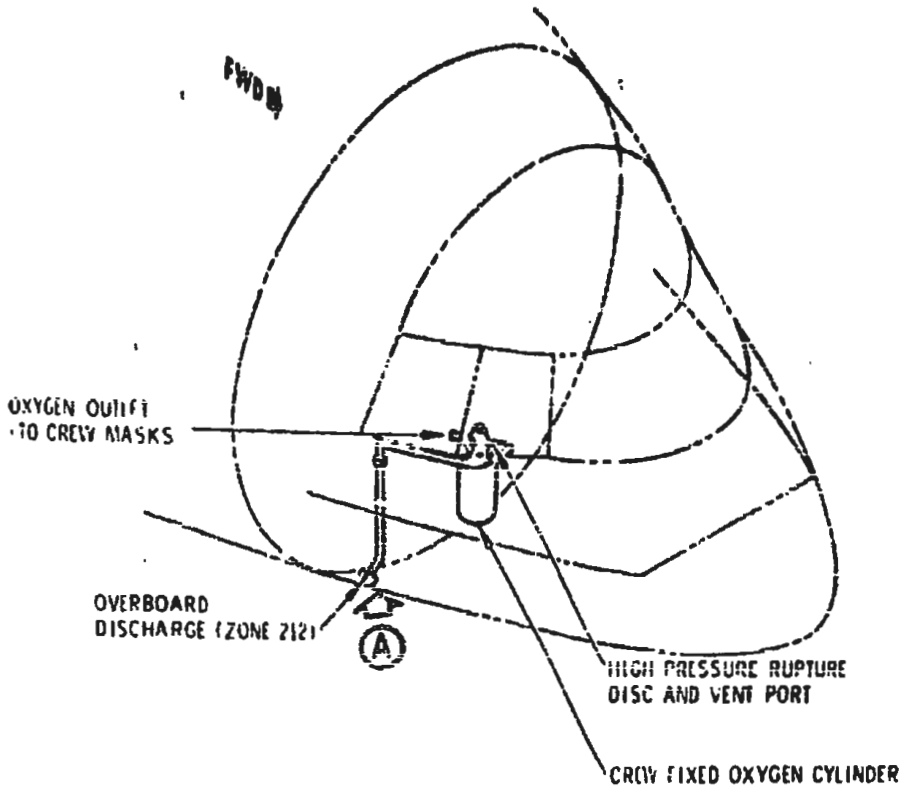
1. Inspection/Check

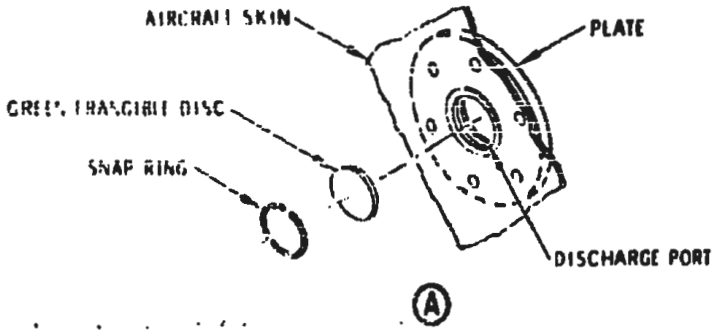
   A. Inspection

R

   (1) Visually check frangible disc in oxygen overboard discharge indicator is intact. Replace if broken or missing (Ref. Fig. 601).

   (2) If frangible disc is broken or missing this may be an indication that fixed breathing oxygen cylinder frangible burst disc has failed due to overpressure and all oxygen content exhausted through discharge indicator (Ref. 35-11-00).





MI-0001-35-012

R R Oxygen Overboard Discharge Indicator
Figure 601

EFFECTIVITY: ALL

RELIEF VENT HOSE ASSEMBLY - REMOVAL AND INSTALLATION

1. Equipment and Materials

PTFE TAPE MIL-T-27730, or equivalent.

Oxygen System Leak Detection Compound, MIL-L-25567, or equivalent.

2. Removal/Installation

WARNING: DO NOT CONTAMINATE THE OXYGEN SYSTEM OR ANY COMPONENT THEREOF WITH GREASE OR OIL. DO NOT BUMP, DENT, OR SCRATCH THE OXYGEN CYLINDER.

A. Removal

CAUTION: CLOSE SHUTOFF VALVE FINGER TIGHT ONLY TO AVOID DAMAGING VALVE SEAT.

(1) Close shutoff valve on oxygen cylinder located outboard and aft of First Officer, zone 212. Two and one-half to six turns are required to close the valve fully.

(2) Place any OXYGEN REGULATOR panel control toggle in EMERGENCY position until all flow ceases, then return to NORMAL (Ref. Fig. 401).

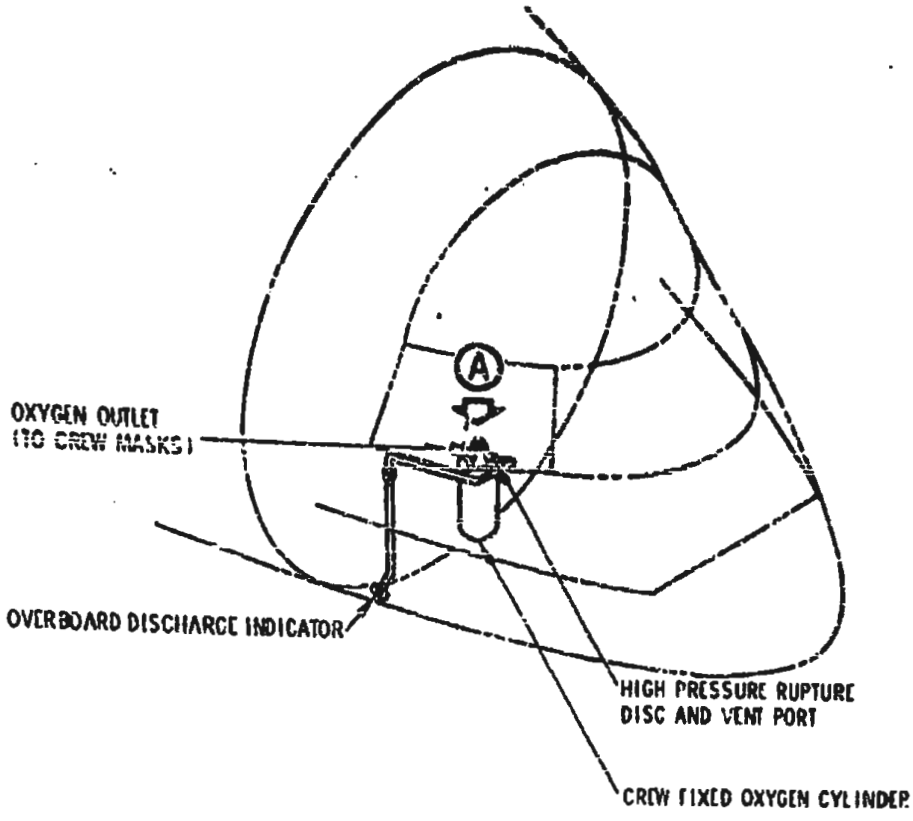
CR (3) Disconnect relief vent hose (or rigid tube) from VENT connector on oxygen distribution panel and from oxygen cylinder shutoff valve.

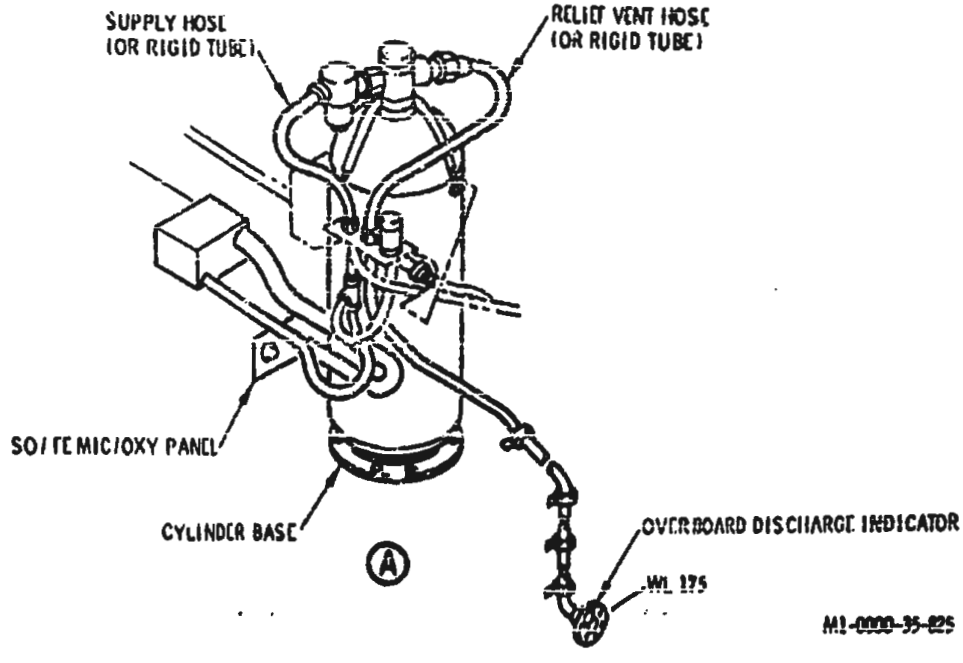
(4) Use clean caps and plugs to seal all openings and prevent contaminants such as dirt, oil, or grease from entering the system.

B. Installation

CR (1) Remove caps and plugs and any contaminants from
CR fittings and oxygen line connections. Check any new
CR lines or tubes from stock to assure they are free of
CR contaminants. Clean, as required, with freon or
CR trichlorethylene and isopropyl alcoyol and dry nitrogen
CR (or equivalent) (Ref. GP&P 9-61-0).

(2) Ensure pipe threeds are clean, apply a maximum of three wraps of PTFE TAPE, MIL-T-27730, to make thread in opposite direction of thread run, leaving the first two threads clear.





CR CR Relief Vent Nose Assembly - Removal and Installation
Figure 401

EFFECTIVITY: ALL

002B

CR (3) Connect relief vent hose (or rigid tube) to oxygen cylinder shutoff valve. Torque connection 140 to 170 lb in.

CR (4) Connect relief vent hose (or rigid tube) to VENT connector on oxygen distribution panel. Torque connection 180 to 240 lb in.

WARNING: SHUTOFF VALVE MUST BE OPENED SLOWLY OR EXCESSIVE TEMPERATURE MAY RESULT.

CR NOTE: The rigid tubes were designed to be reformed (bent)
CR slightly to facilitate installation.

(5) Open slow-opening shutoff valve on oxygen cylinder.

WARNING: ONLY AUTHORIZED LEAK DETECTION COMPOUNDS MAY BE USED FOR TESTS. CLEAN AND DRY ALL CONNECTIONS IMMEDIATELY AFTER TESTING. DO NOT ALLOW LEAK DETECTION COMPOUND TO ENTER OXYGEN SYSTEM OR COMPONENTS.

(6) Use leak detection compound on all oxygen line connections and inspect for leaks. If leakage is detected continue to tighten but do not exceed maximum torque values. If leakage persists at maximum torque values replace leaking components.

SUPPLY HOSE ASSEMBLY - REMOVAL AND INSTALLATION

1. Equipment and Materials

PTFE TAPE, MIL-T-27730, or equivalent

Oxygen System Leak Detection Compound, MIL-L-25567, or equivalent

2. Removal/Installation

WARNING: DO NOT CONTAMINATE THE OXYGEN SYSTEM OR ANY COMPONENT THEREOF WITH GREASE OR OIL. DO NOT BUMP, DENT, OR SCRATCH THE OXYGEN CYLINDER.

A. Removal

CAUTION: CLOSE SHUTOFF VALVE FINGER-TIGHT ONLY TO AVOID DAMAGING VALVE SEAT BY OVERTIGHTENING.

(1) Close shutoff valve on oxygen cylinder located outboard and aft of First Officer, zone 212. Two and one-half to six turns are required to close the valve fully.

(2) Place any OXYGEN REGULATOR panel control toggle in EMERGENCY position until all flow ceases, then return to NORMAL (Ref. Fig. 401).

CR (3) Disconnect oxygen supply hose (or rigid tube) from OXY connection on oxygen distribution panel.

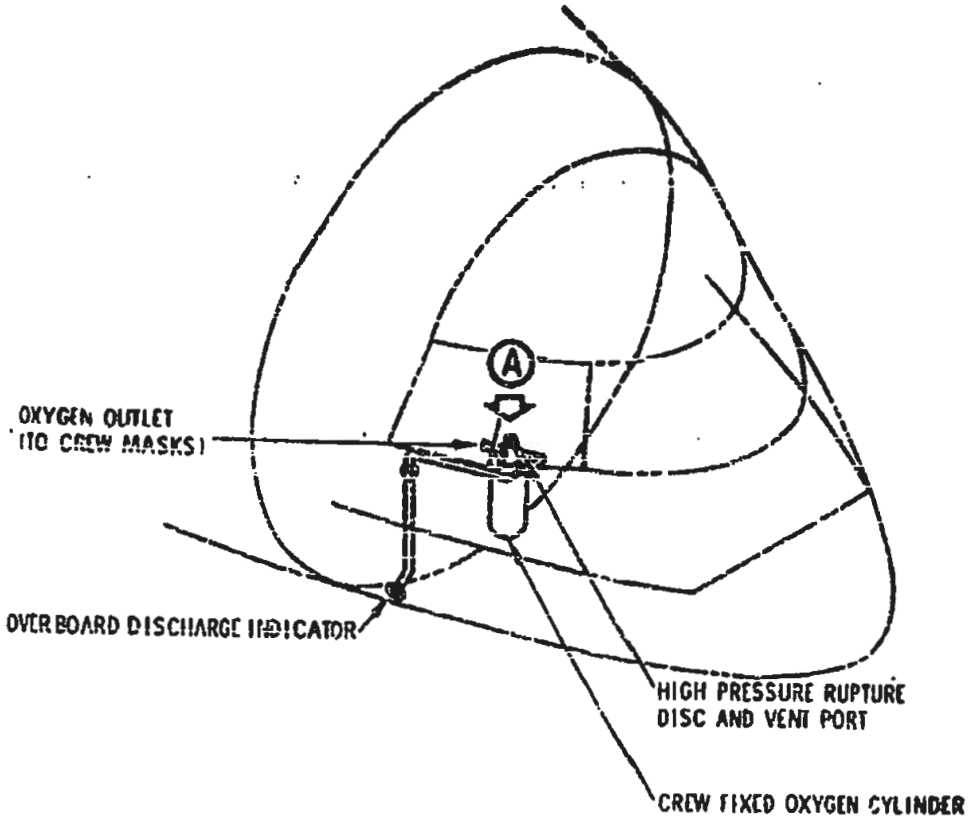
CR (4) Disconnect hose (or rigid tube) fitting from oxygen cylinder shutoff valve (Ref. Fig. 401).

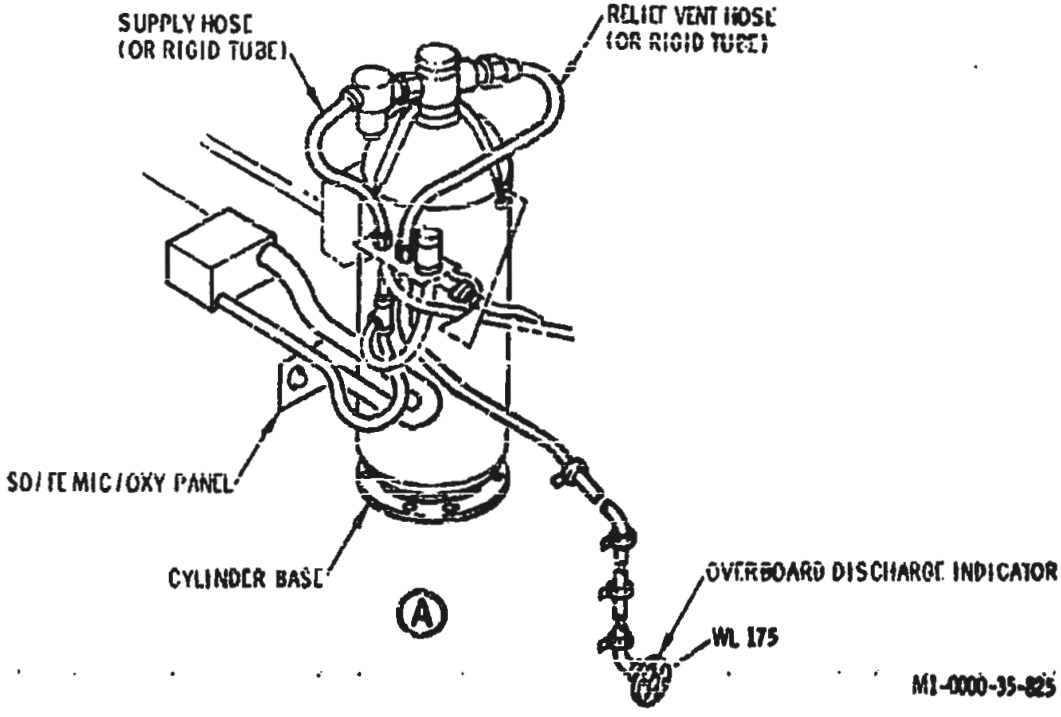
(5) Use clean caps and plugs to seal all openings and prevent contaminants such as dirt, oil, or grease from entering the system.

B. Installation

CR CR CR CR CR (1) Remove caps and plugs and any contaminants from fittings and oxygen line connections. Check any new lines or tubes from stock to assure they are free of contaminants. Clean, as required, with freon or trichlorethylene and isopropyl alcohol and dry nitrogen (or equivalent) (Ref. GP&P 9-61-01).

(2) Ensure pipe threads are clean, apply a maximum of three wraps of PTFE Tape, MIL-T-27730, to male thread in





CR
CR

Supply Hose Assembly - Removal and Installation
Figure 401

EFFECTIVITY: ALL

002B

opposite direction of thread run, leaving the first two threads clear.

CR (3) Connect supply hose (or rigid tube) to OXY connector on oxygen distribution panel. Torque connection 132 to 180 lb in.

CR (4) Connect supply hose (or rigid tube) to pressure
CR reducer. Torque connection 60 to 200 lb in. If a
CR rigid tube is installed, an AN816-5-4D adapter is
CR required .

WARNING: SHUTOFF VALVE MUST BE OPENED SLOWLY OR EXCESSIVE TEMPERATURE MAY RESULT.

CR NOTE: The rigid tubes were designed to be reformed (bent)
CR slightly to facilitate installation.

(5) Open shutoff valve on oxygen cylinder.

WARNING: ONLY AUTHORIZED LEAK DETECTION COMPOUNDS MAY BE USED FOR TESTS. CLEAN AND DRY ALL CONNECTIONS IMMEDIATELY AFTER TESTING. DO NOT ALLOW LEAK DETECTION COMPOUND TO ENTER OXYGEN SYSTEM OR COMPONENTS.

(6) Use leak detection compound on all oxygen line connections and inspect for leaks. If leakage is detected continue to tighten but do not exceed maximum torque values.

PRESSURE REDUCER - REMOVAL AND INSTALLATION

1. Equipment and Materials.

   Oxygen System Leak Detection Compound, MIL-L-25567, or equivalent

2. Removal/Installation

   WARNING: DO NOT CONTAMINATE THE OXYGEN SYSTEM OR ANY COMPONENT THEREOF WITH GREASE OR OIL. DO NOT BUMP, DENT, OR SCRATCH THE OXYGEN CYLINDER.

   A. Removal

      CAUTION: CLOSE SHUTOFF VALVE FINGER-TIGHT ONLY TO AVOID DAMAGING VALVE SEAT.

      (1) Close shutoff valve on oxygen cylinder located outboard and aft of First Officer, zone 212. Two and one-half to six turns are required to close valve fully.

      (2) Place any OXYGEN REGULATOR panel control toggle in EMERGENCY position until all flow ceases, then return to NORMAL (Ref. Fig. 401).

CR   (3) Disconnect oxygen supply hose (or rigid tube) from pressure reducer.

CR CR NOTE: The rigid tube will require that the AN816-5-4D adapter be transfered to the new pressure reducer.

      (4) Disconnect pressure regulator CGA fitting from oxygen cylinder shutoff valve (Ref. Fig. 401).

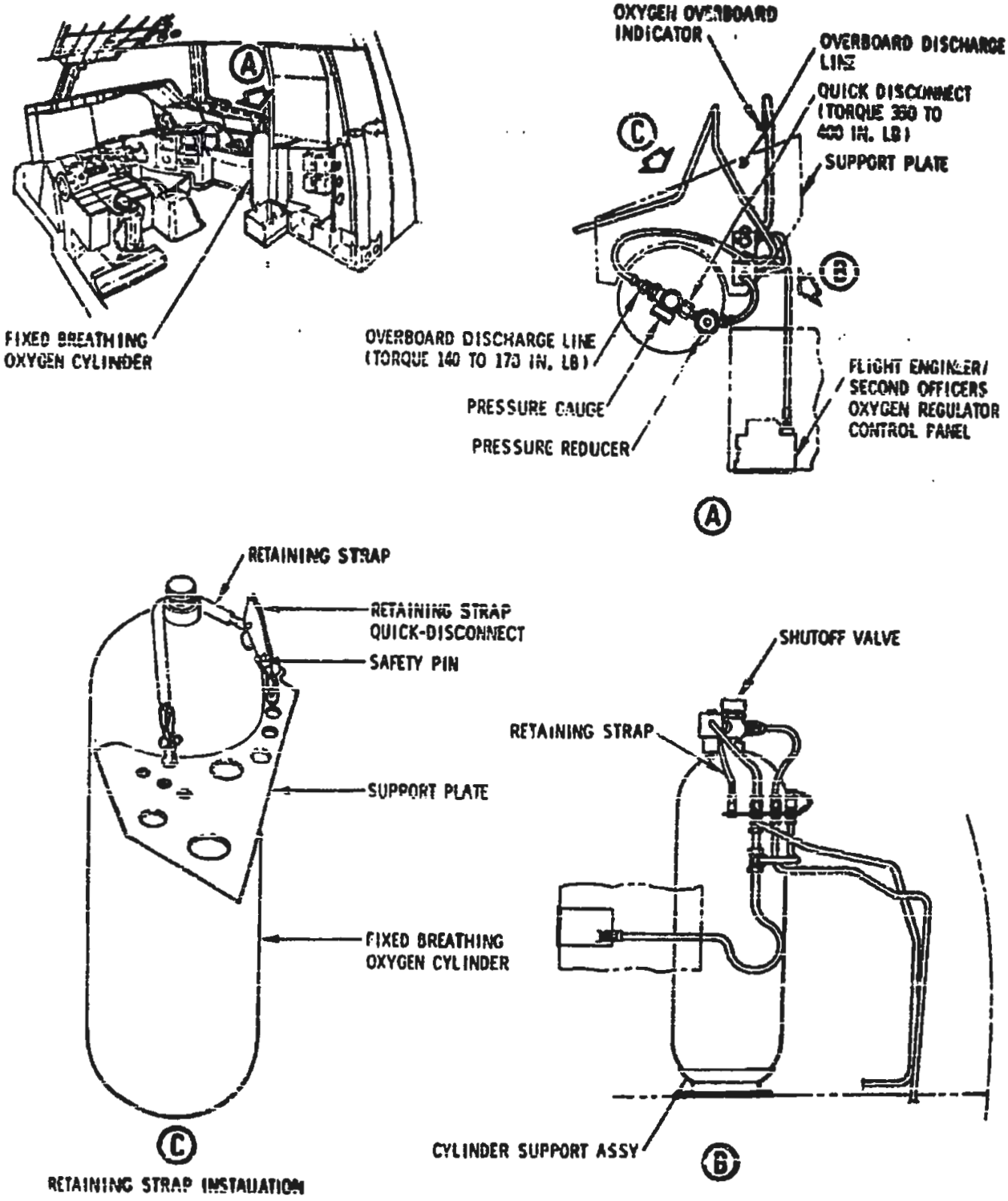
      (5) Use clean caps and plugs to seal all openings and prevent contaminants such as dirt, oil, or grease from entering system.

   B. Installation

      (1) Remove caps and plugs and any contaminants from fittings and oxygen line connections.

CR   (2) Connect supply hose (or rigid tube) to pressure reducer. Torque connection 60 to 200 lb in.

      (3) Connect pressure reducer CGA fitting to oxygen shutoff valve. Torque connection 350 to 400 lb in.



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R Pressure Reducer - Removal and Installation
R Figure 401

EFFECTIVITY: ALL

050B

WARNING: SHUTOFF VALVE MUST BE OPENED SLOWLY OR EXCESSIVE TEMPERATURE MAY RESULT.

(4) Open shutoff valve on oxygen cylinder.

WARNING: ONLY AUTHORIZED LEAK DETECTION COMPOUNDS MAY BE USED FOR TESTS. CLEAN AND DRY ALL CONNECTIONS IMMEDIATELY AFTER TESTING. DO NOT ALLOW LEAK DETECTION COMPOUND TO ENTER OXYGEN SYSTEM OR COMPONENTS.

(5) Use leak detection compounds on all oxygen line connections and inspect for leaks. If leakage is detected continue to tighten but do not exceed maximum torque values. If leakage persists at maximum torque values replace leaking components.

PASSENGER OXYGEN SYSTEM - DESCRIPTION AND OPERATION

1. General

The passenger oxygen system provides emergency oxygen for passengers, cabin attendants, food service specialists, and lavatory occupants. Emergency oxygen is provided by modular disposable-type chemical oxygen generators to which passenger oxygen masks are manifolded.

A chemical oxygen generator, installed in the passenger service module is provided for each passenger seat group.

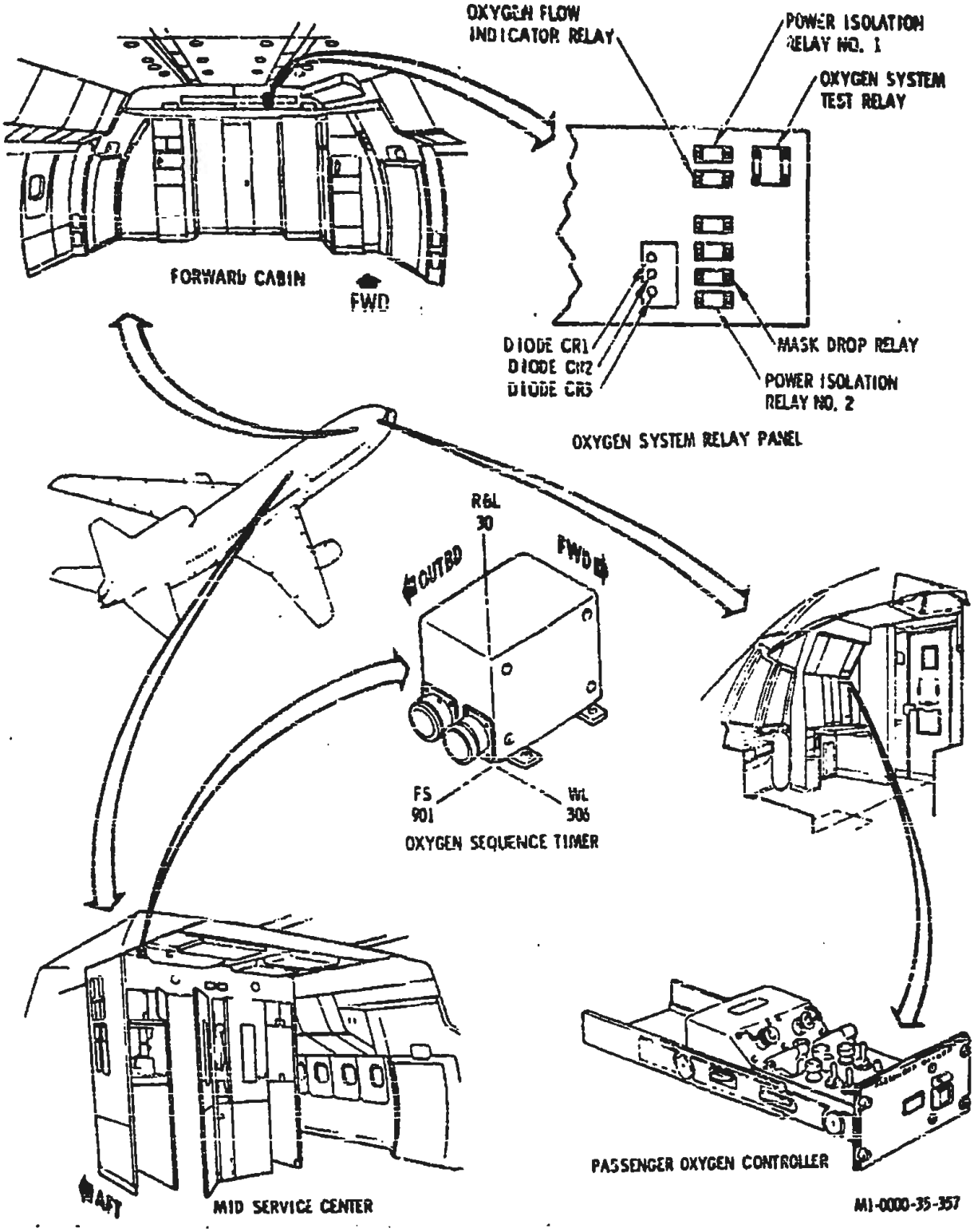
A chemical oxygen generator, installed in an oxygen module assembly, is provided at each lavatory, cabin attendant, and food service specialist station. A passenger oxygen controller automatically activates the oxygen system. Provisions for manual activation from the flight station are also provided (Ref. Fig. 1).

Included in the system are two power isolation relays, test relay, drop-mask relay, oxygen flow indicator relay, and sequence timer oxygen initiator switch. Current-limiting resistors are installed in the passenger service modules to limit the current drawn through each oxygen generator. The resistors also provide a voltage divider network for test purposes.

2. Operation

When cabin altitude exceeds 13,300 ±600 feet, the aneroid switches in the oxygen controller close (Ref. Fig. 2). Power from the dc standby bus NORMAL PASSENGER OXYGEN MASK circuit breaker is applied to the cabin altitude pressure switches. The 28V dc through the pressure switches is applied to the inputs of the sequence timer oxygen initiator switch through the normally closed contacts of the test relay. The switch sequences through 15 output positions. Each output is connected to a group of
R oxygen mask door latches and oxygen generators (Ref. Fig. 3). Each of the 15 output positions consists of two signals: one signal releases the oxygen mask door latches to deploy oxygen masks and the other initiates the oxygen generators to start oxygen flow. One oxygen initiator switch output voltage is fed back to energize the oxygen flow indicator relay which turns on the green OXYGEN FLOW light on the oxygen controller.

If automatic deployment fails, the system can be operated by pressing the MANUAL switch on the oxygen controller and holding it depressed for at least six seconds. Closing this switch



Passenger Oxygen System Components
Figure 1

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R

EFFECTIVITY: ALL

0018

overrides the automatic system and fires the generators and deploys the masks. Manual operation may be selected at any time.

3. Passenger Oxygen Controller

A. Description

The PASSENGER OXYGEN controller mounted on the Flight Engineer/Second Officers upper panel, zone 215, contains the control circuitry for the passenger oxygen system MANUAL deployment and testing (Ref. Fig. 4).

The controller contains:

Two dual-aneroid pressure switches for continuous sensing of cabin altitude

A guarded MANUAL switch to provide manual deployment of the oxygen system

An OXYGEN FLOW indicator light to provide indication of oxygen flow

Test switches and indicator lights are provided on the chassis behind the front panel to test the oxygen system without initiating the chemical oxygen generators or dropping the masks. A manual switch is also provided to permit dropping the masks without initiating the generators.

R NOTE: On Passenger Oxygen Controller with Telephonics Service Bulletin 432D-35-1, the OXYGEN and LATCH indicated lights on SYSTEM TEST panel are deleted.

B. Operation

When either of the two dual-aneroid switches senses a cabin altitude exceeding 13,300 (±600) feet, the controller provides a 28V dc output to energize the oxygen system. The OXYGEN FLOW indicator light comes on when the oxygen system is energized. Holding the MANUAL guarded pushbutton switch depressed for a minimum of six seconds, overrides the automatic system to deploy the oxygen masks and initiate oxygen flow.

4. Fixed Chemical Oxygen Generator

A. Description

Each oxygen generator (Ref. Fig. 5) has a corrosion resistant steel case. The case contains an insulating liner, a pressed charge block of sodium chlorate and iron powder, and an electrical initiator. A relief valve protects the case against overpressure.

The generators are made in three sizes: a one-, two-, and three-mask unit. A stripe of white or light, heat sensitive material is painted around the container. The stripe changes color to indicate an expended generator.

The generators are clamped within the passenger service modules and are connected to the oxygen mask tubing at the manifold end of the generator. The manifold in each generator incorporates metering orifices that control distribution of oxygen flow to the masks.

B. Operation

When 28V dc is applied to the connector pins, the initiation area of the charge block ignites and raises the temperature of the adjacent area. Chemical reaction creates oxygen and heat. The heat maintains the reaction, and oxygen is produced until the generator is expended. The generator provides maximum oxygen flow to the mask within 6 seconds for a period of 15 minutes. The temperature of the oxygen delivered to the mask will not exceed 15 degrees F above ambient temperature at the mask.

5. Passenger Oxygen Mask

A. Description

The passenger oxygen mask is a cup-shaped, continuous-flow, oronasal unit. Each passenger oxygen mask consists of:

Elastic headstrap

Silicone rubber face cup

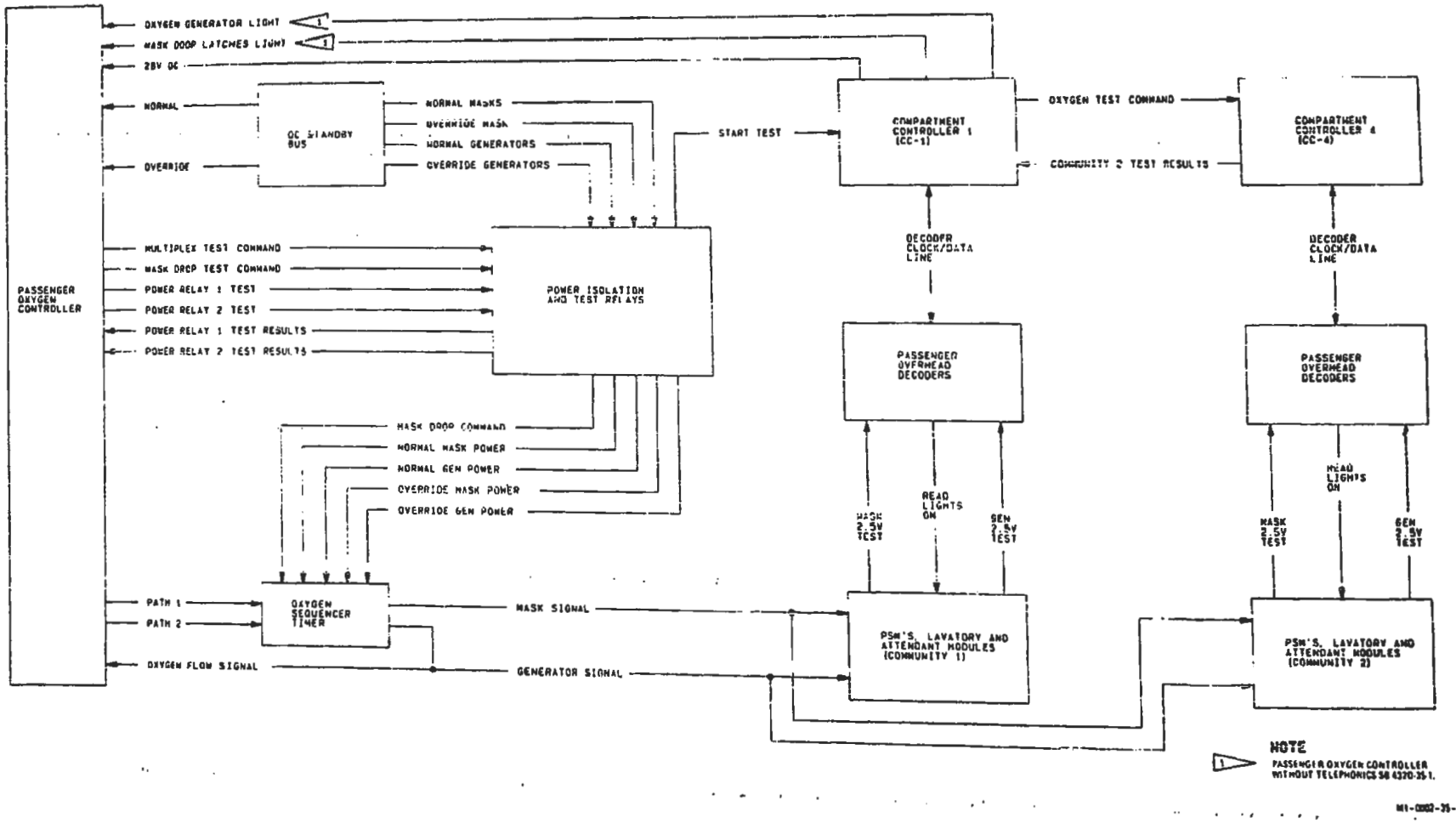
Inhalation valve

Exhalation valve

Ambient air valve

One-liter capacity vinyl reservoir bag

Flexible plastic oxygen delivery tube



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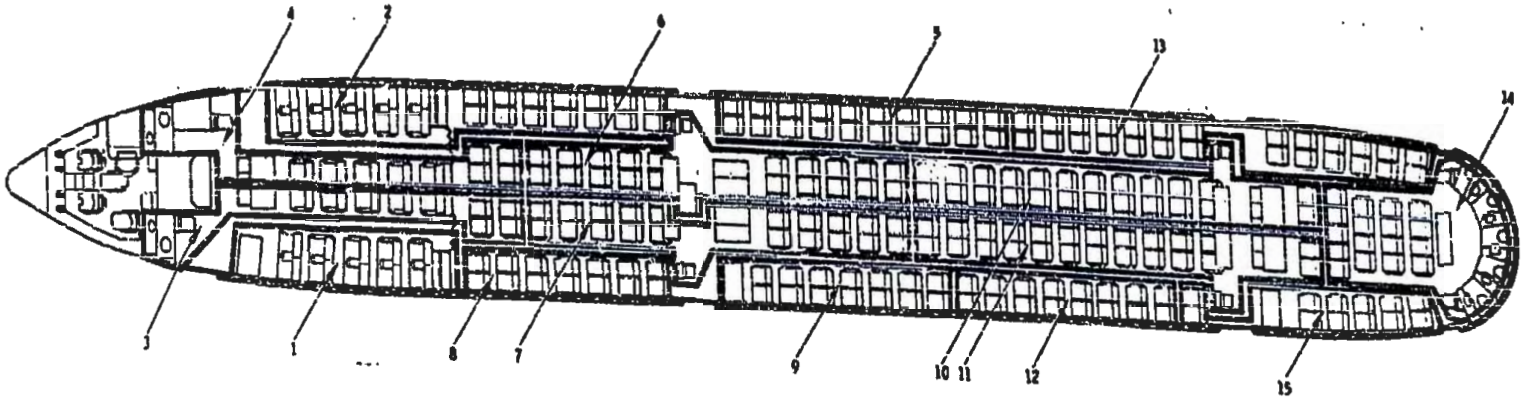
R Passenger Oxygen System Block Diagram
Figure 2

EFFECTIVITY: ALL

0018



ATTENDANT/LAVATORY SEQUENCE GROUP ASSIGNMENTS	
POSITION	ASSIGNED SEQUENCE GROUP
L1 ATTENDANT	3
L2 ATTENDANT	7
L3 ATTENDANT	11
L4 ATTENDANT	14
R1 ATTENDANT	4
R2 ATTENDANT	6
R3 ATTENDANT	10
R4 ATTENDANT	14
GALLEY ATTENDANT	6
LEFT FOOD SPECIALIST STATION (UNDER FLOOR)	7
RIGHT FOOD SPECIALIST STATION (UNDER FLOOR)	6
LEFT FORWARD LAVATORY	3
RIGHT FORWARD LAVATORY	4
5 AFT LAVATORIES	14

NOTE

1 SEATING CONFIGURATION FOR AIRCRAFT 032-999 SHOWN, SEQUENCE GROUPS TYPICAL FOR ALL AIRCRAFT

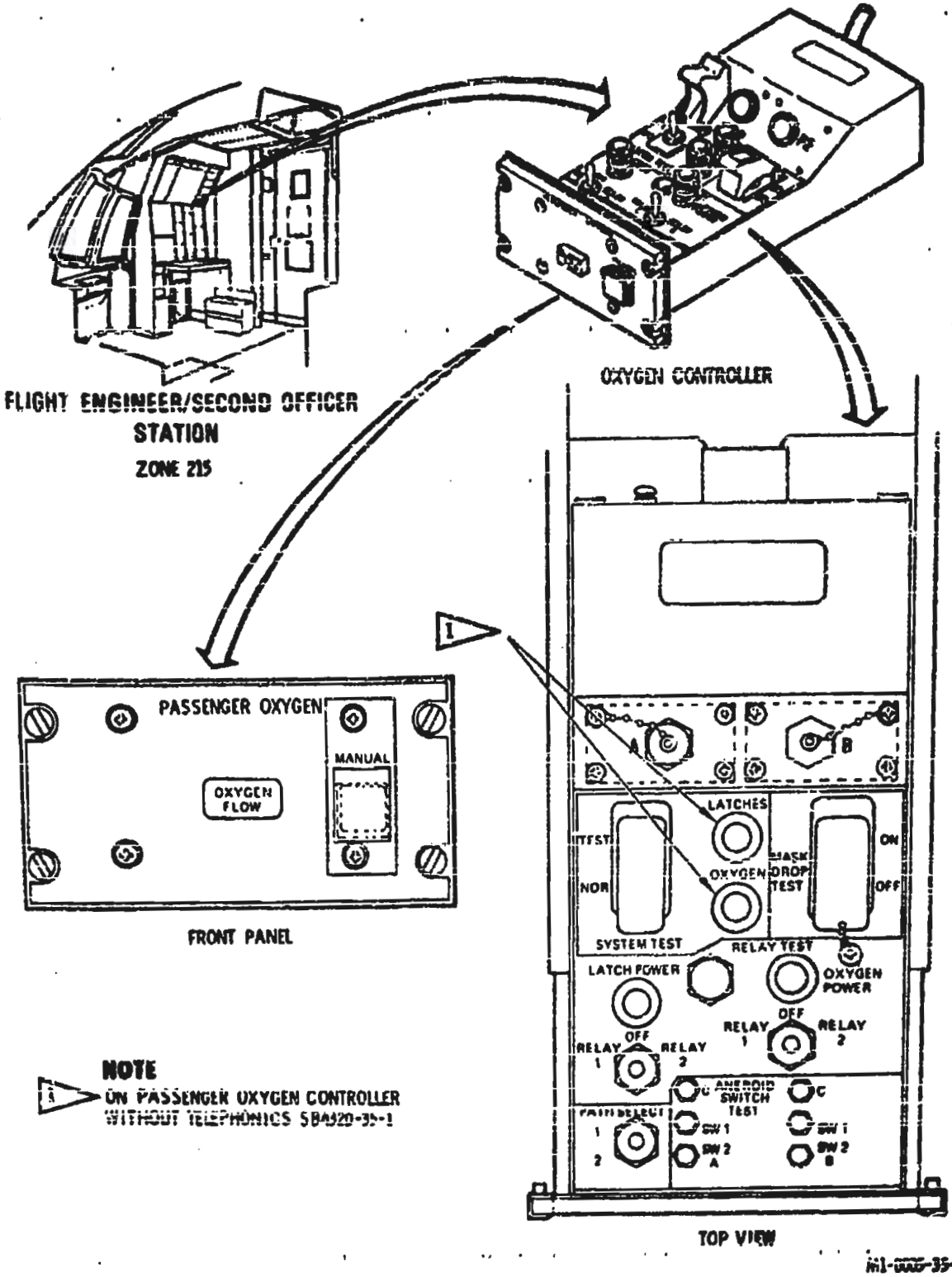
M1-0000-35-532

R
R

Passenger Oxygen System Sequence Groups
Figure 3

EFFECTIVITY: ALL

0018



NOTE

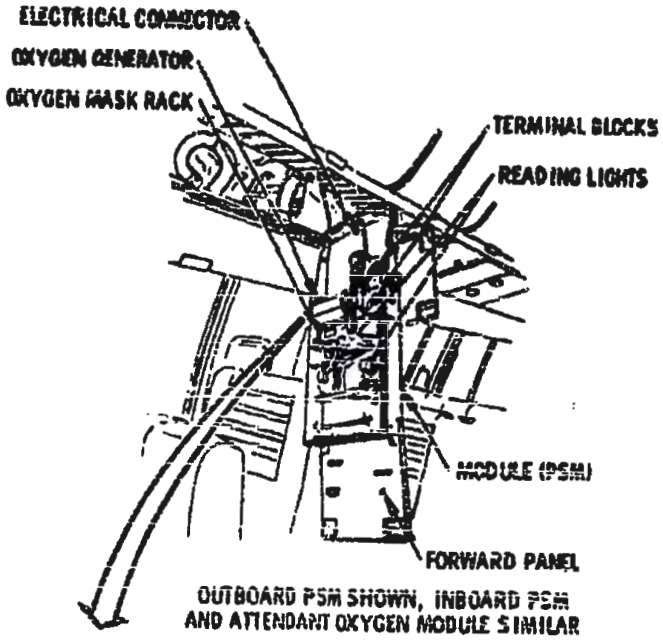
1 ON PASSENGER OXYGEN CONTROLLER WITHOUT TELEPHONICS SB4920-35-1

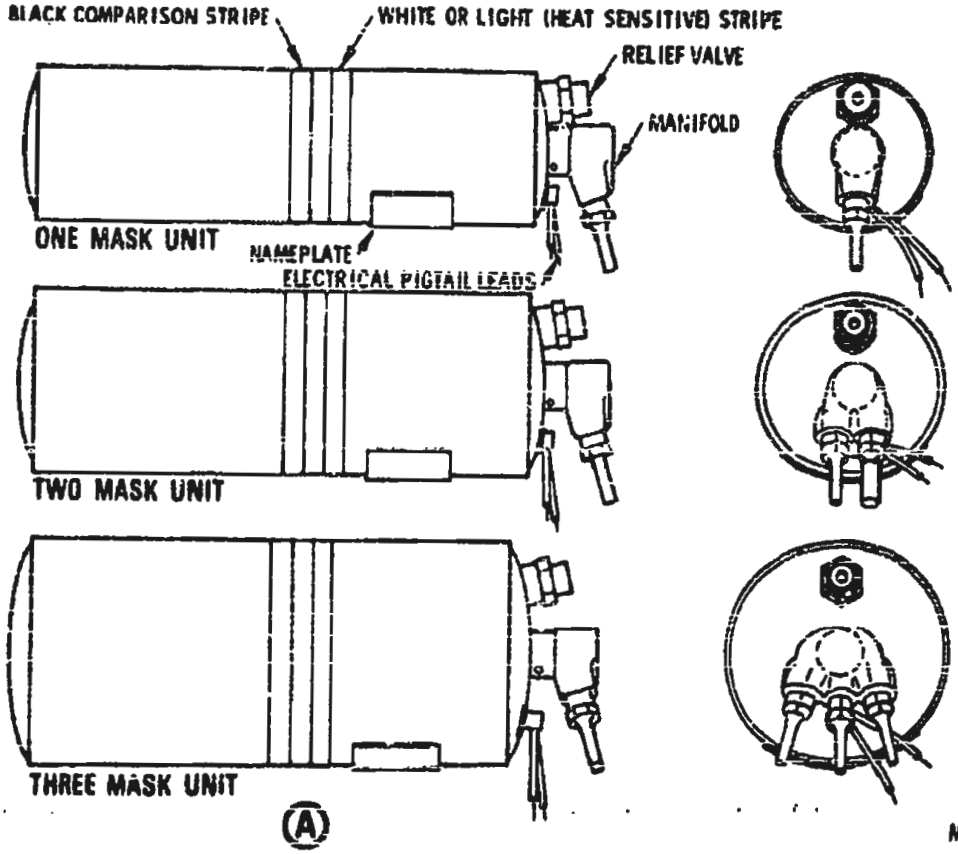
Passenger Oxygen Controller
Figure 4

CR
CR

EFFECTIVITY: ALL

U01B





Fixed Chemical Oxygen Generator
Figure 5

CR Some newer type oxygen masks incorporate a green flow indicator that gives flight attendants and passengers positive proof of oxygen flow (Ref. Fig. 6).

Oxygen masks are provided with delivery tube lengths of 53 or 75 inches. The masks are installed according to seating arrangement (Ref. Fig. 6).

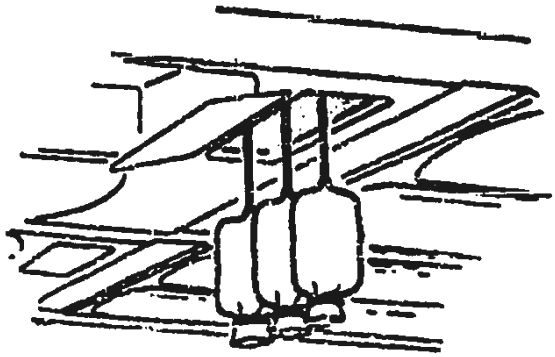
An oxygen mask is provided for each passenger seat. An additional mask is provided for each group of seats (Ref. Fig. 7). Two oxygen masks are provided for each lavatory. One oxygen mask is provided at each cabin attendants station and at each food service specialists seat in the cabin and galley. Each oxygen mask is attached to the manifold of a disposable chemical generator. The oxygen masks are prepackaged in oxygen mask stowage racks. Each rack contains one or more oxygen masks, as required, for each installation. The racks, with the mask(s), are installed in the passenger service modules and in the oxygen module assemblies. Before installation, the mask(s) is held in the rack by a keeper. After installation the keeper is removed and the mask(s) is held in the rack by the oxygen mask door.

B. Operation

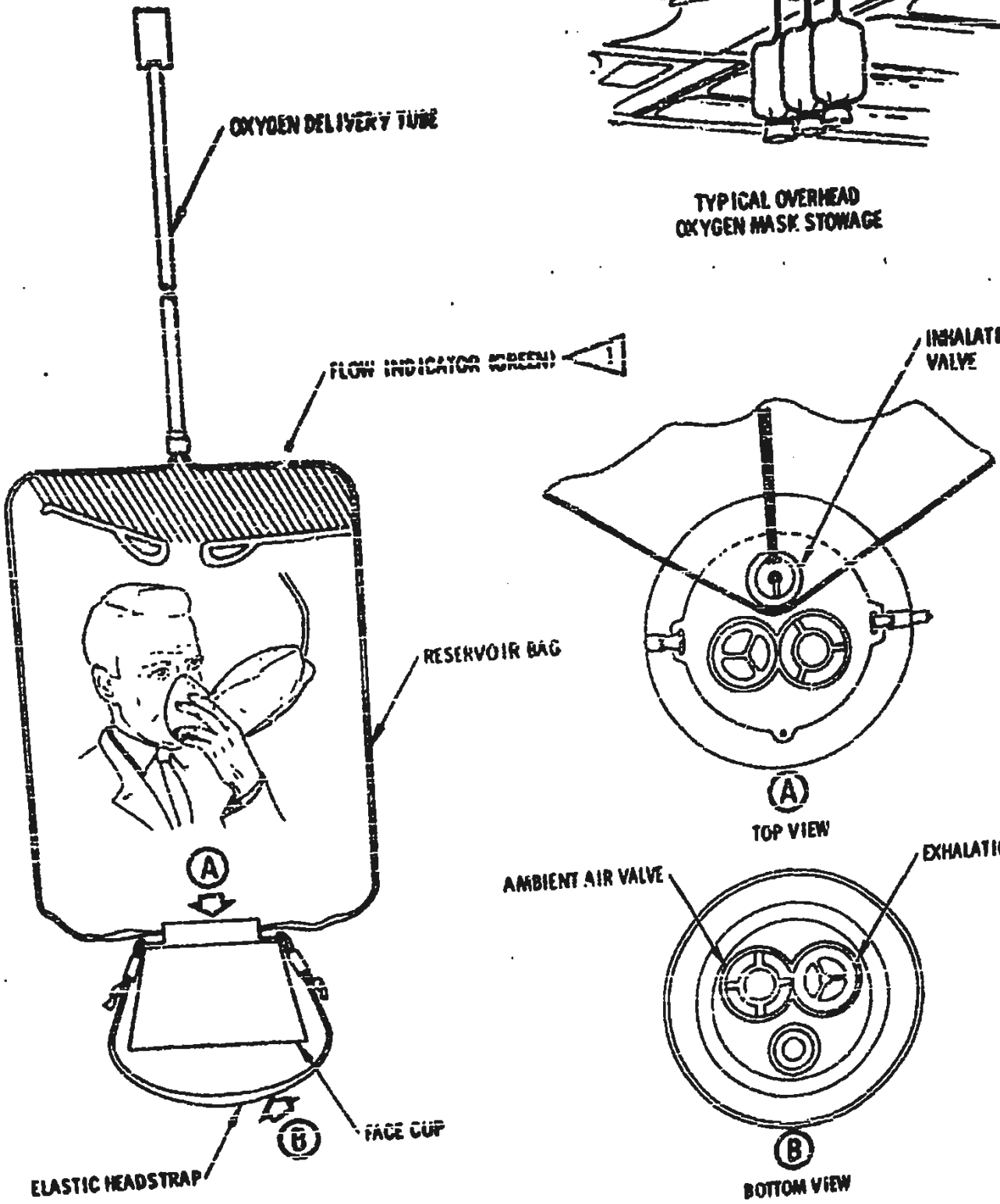
If loss of cabin pressure occurs, the oxygen system activates the chemical generators and unlatches the oxygen mask doors. The oxygen masks are deployed within reach of the passengers. Oxygen flows from the chemical generator to the reservoir bags of the oxygen masks whether or not the oxygen masks are used.

CR On some newer type oxygen masks, the incoming oxygen inflates the "flow indicator" (green) portion of the reservoir bag, which provides a visual indication of oxygen flow.

An oxygen mask can be snugged to the face with the elastic headstrap or held in place by hand. As the user inhales, oxygen is withdrawn from the reservoir bag through the inhalation valve. According to cabin pressure, air from the atmosphere automatically dilutes the oxygen through the ambient air valve. The ambient air valve also permits the user to breathe if the oxygen supply becomes restricted. The user exhales to atmosphere through the exhalation valve. The inhalation valve is a one-way valve that prevents any exhaled air from reentering the reservoir bag. During exhalation, the reservoir bag refills with oxygen.



TYPICAL OVERHEAD
OXYGEN MASK STOWAGE

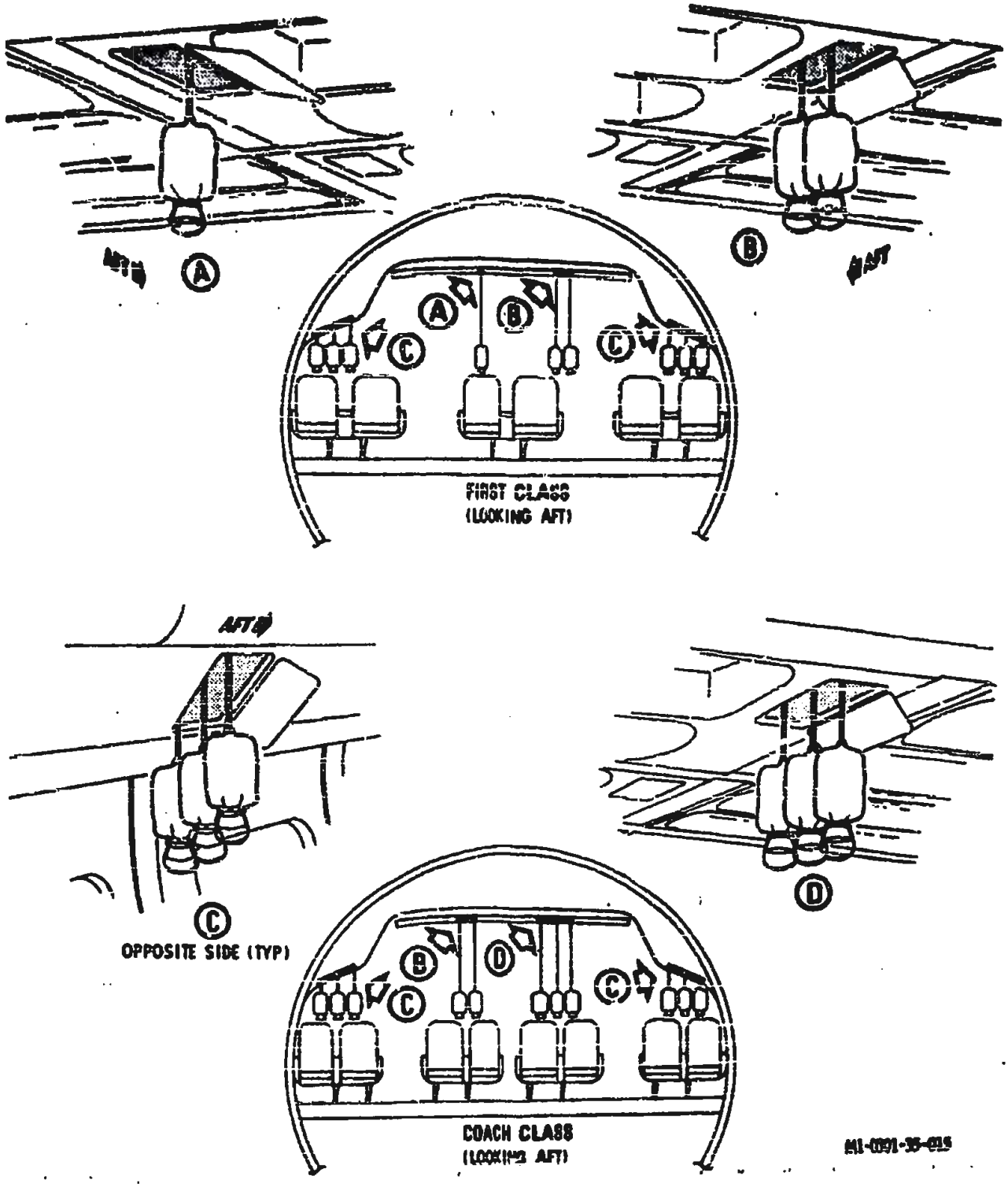


1 ON SOME NEWER TYPE OXYGEN MASKS

M1-0001-35-533

Passenger Oxygen Mask
Figure 6

CR



Typical Passenger Oxygen Mask Installation
Figure 7

6. Oxygen Mask Door Latch

A. Description

An electromagnetic latch is installed in each oxygen mask door. The latch holds the oxygen mask door closed and is electrically unlatched for deployment of oxygen masks. Each latch assembly installed in lavatories, and in cabin attendants, and food service specialists oxygen module mask compartment consists of a permanent magnet and an electromagnet. The permanent magnet is mounted on the oxygen mask door. The electromagnet is mounted on the side of the oxygen mask stowage compartment. The permanent magnet pad keeps the oxygen mask door closed by contact with the face of the corresponding electromagnet pad (Ref. Fig. 8).

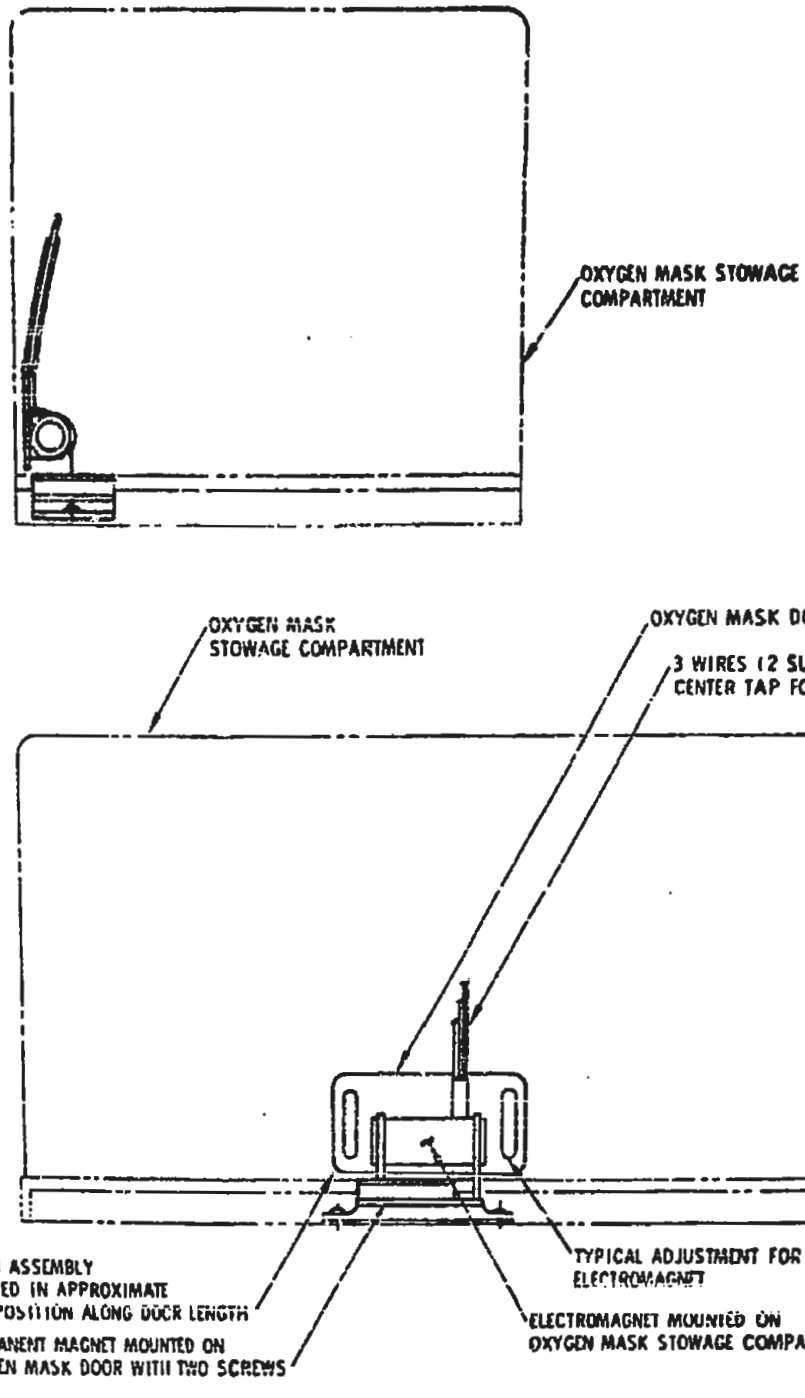
WARNING: DO NOT APPLY ANY TYPE OF LUBRICANT TO DOOR LATCH MECHANISM. LATCH MAY BE CLEANED USING ISOPROPYL ALCOHOL (FED SPEC TP-1-735 OR EQUIVALENT) AND DRIED WITH A CLEAN LINT-FREE CLOTH.

The latch assembly installed on the passenger service modules is an electromagnetic-type latch assembly which consists of a striker and a retaining latch. The striker is mounted on the oxygen mask compartment stowage door, and the retaining latch is mounted on the compartment stowage wall. The mask stowage door is normally held secure by mechanical interlocking of the retaining latch to the striker; a hold-lever captivates a cluster of ball bearings around the striker ball pin, to prevent disengagement (Ref. Fig. 9).

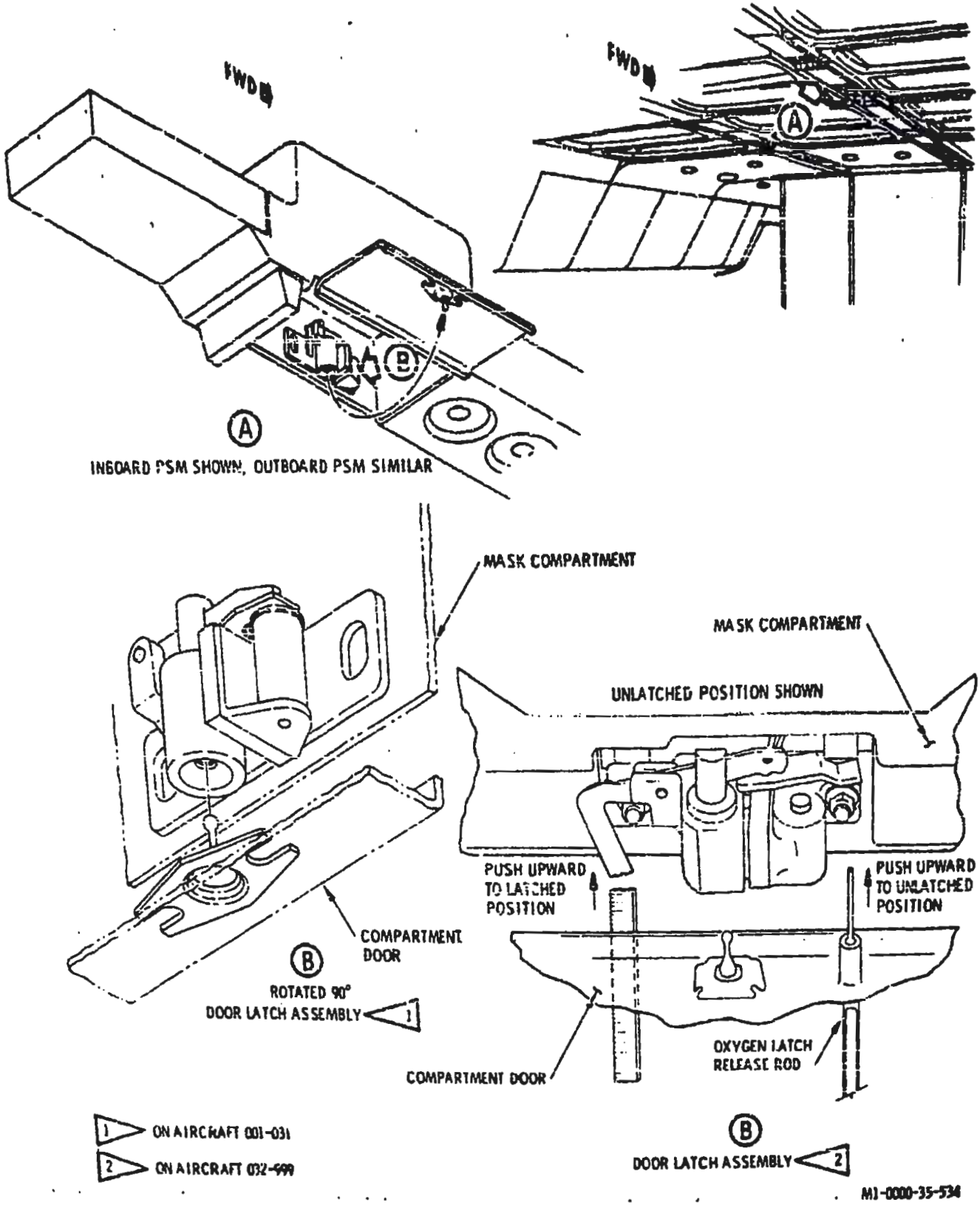
On aircraft 032-999, manual disengagement of the latch mechanism, without lowering the PSM, is provided. Manual release features include an extended shoe, a hole in the mask compartment door and a guide sleeve fitted around the hole (Ref. Fig. 9).

B. Operation

Actuation of the lavatory, cabin attendants, and food service specialists oxygen system energizes the electromagnets. This creates polarity in the coil opposite to the permanent magnet. This cancels the 7-pound holding force of the permanent magnet and allows each oxygen mask door to drop open. The door drops approximately 180 degrees from the closed position by action of the spring-loaded hinge. When the passenger service module oxygen system is actuated, the retaining latch coil is energized, which nullifies the permanent magnet and releases the spring-loaded lever and plunger. With the plunger in the


OXYGEN MASK STOWAGE COMPARTMENT
OXYGEN MASK STOWAGE COMPARTMENT
OXYGEN MASK DOOR LATCH
3 WIRES (2 SUPPLY AND 1 CENTER TAP FOR CONTINUITY TEST)
LATCH ASSEMBLY LOCATED IN APPROXIMATE MID POSITION ALONG DOOR LENGTH
PERMANENT MAGNET MOUNTED ON OXYGEN MASK DOOR WITH TWO SCREWS
TYPICAL ADJUSTMENT FOR ELECTROMAGNET
ELECTROMAGNET MOUNTED ON OXYGEN MASK STOWAGE COMPARTMENT
HH 5854
M1-A00-35-003

Lavatories, Cabin Attendants, and Food Service Specialists
Oxygen Module Door Latch
Figure 8



R R Passenger Oxygen Mask Compartment Door Latch Assembly (PSM)
Figure 9

EFFECTIVITY: ALL

001B

released position, the retaining latch ball bearing cluster breaks away to allow the striker ball pin to disengage. The spring on the door hinge ensures rapid opening to 170-180 degrees so that the oxygen masks will be deployed.

On aircraft 032-999,
the door latch is released manually by pressing against the shoe extension with an oxygen latch release rod inserted through the hole and guide sleeve. Each latch is rearmed by pressing upward on the L-shaped extension of the lever arm that is accessible when door is partially open (Ref. Fig. 9).

7. Sequence Timer Oxygen Initiator Switch

A. Description

The sequence timer oxygen initiator switch is installed above the mid cabin right-hand ceiling panel in front of the galley lift, zone 254. The switch provides two 26V dc, internally regulated, output channels of 15 steps each. One channel deploys the passenger oxygen masks, and the other channel initiates the flow of oxygen. Each channel has two switching paths. The failure of one switching path will not affect channel operation.

A test mode is provided. When 28V dc is applied to one of the two switching path inputs, a 5V dc test voltage is applied to each output channel for two complete cycles. Two ground output signals are provided in the test mode. One signal indicates the start and the other the completion of the test mode.

B. Operation

Both channels operate simultaneously when 28V dc is applied to the input of each channel. Both switching paths of each channel sequence simultaneously. One cycle of 15 steps is completed within 6.4 seconds. Each step is maintained for a minimum of 333 milliseconds. The timer sequences for two complete cycles and then resets.

A 28V dc input to channel 2 initiates switch operation on channel 2 and no output on channel 1.

8. Lavatories, Cabin Attendants, and Food Service Specialists Oxygen Module Assembly

A. Description

An oxygen module is installed in the ceiling of each lavatory, cabin attendants station, and food service specialists station (Ref. Fig. 10).

Each module contains the following components:

Chemical oxygen generator

Mask stowage rack with oxygen mask(s)

Magnetically latched mask door

Mask door solenoid

Oxygen test light

Solenoid test light

Current-limiting resistors

B. Operation

The passenger oxygen system provides two separate 28V dc signals to the oxygen module. One signal initiates the oxygen generator, and the other energizes the mask door solenoid to allow the mask door to drop open and release the oxygen mask(s).

The test lights are actuated during system testing to indicate operational condition of the oxygen generator and the door solenoid.

9. Passenger Oxygen System Testing

A. Description

The passenger oxygen system commands the Passenger Service System (PSS) to perform continuity tests on the oxygen generator firing and mask door latch solenoid circuits (Ref. Fig. 2).

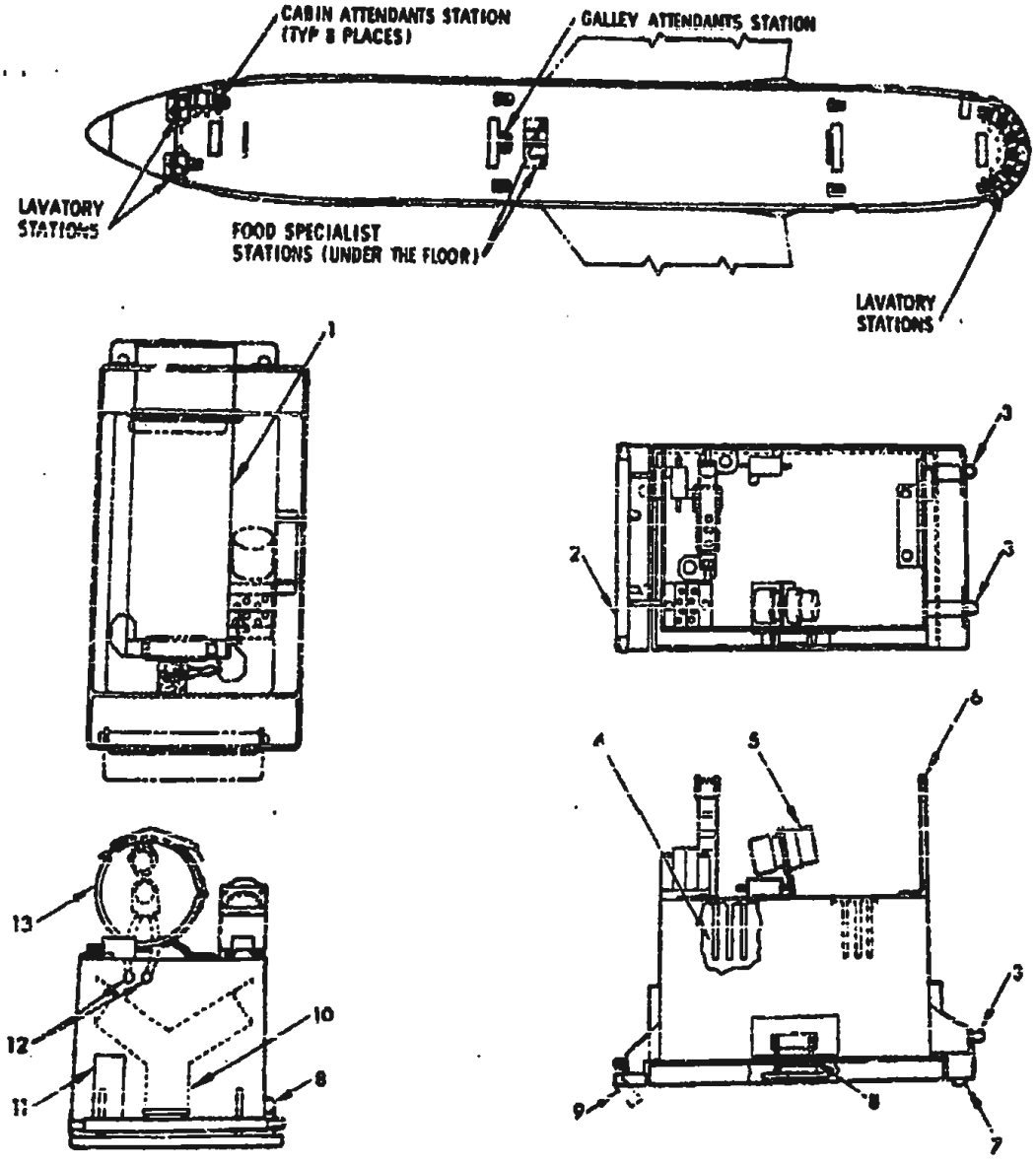
Components which make up the test circuits are:

Passenger Oxygen Controller

Oxygen test relay

Sequencer timer stepper switch

PSS compartment controllers 1 and 4 (Ref. 23-33-00)



1	CHEMICAL OXYGEN GENERATOR	8	MASK COMPARTMENT DOOR LATCH
2	SPRING-LOADED LATCH PIN	9	LATCH PIN ACCESS DOOR
3	LOCATING PINS	10	MASK RACK
4	MASK RACK LOCATING TABS	11	HINGE LOCATION (EACH END)
5	ELECTRICAL CONNECTOR	12	TUBE EXIT
6	O_2 GENERATOR SUPPORT RING	13	OVER CENTER TOGGLE GENERATOR CLAMP
7	LAMP		

HH 5871
M1-0101-15-022

OXYGEN MODULE

Lavatories, Cabin Attendants, and Food Service Specialists
Oxygen Module Assembly
Figure 10

R
R
001B EFFECTIVITY: ALL

Overhead decoders (Ref. 23-33-00)

Passenger reading lights and lavatory/attendant oxygen module blue jewel lights

The reading and jewel lights are used as fault annunciators for generator firing circuits and mask door solenoid circuits that fail the oxygen system tests.

R On Passenger Oxygen Controller without Telephonics
R SB432D-35-1,
completion of a successful oxygen system test is indicated when the OXYGEN and LATCH lights on the oxygen controller are on. One or both of these lights failing to illuminate within 13 seconds after test initiation indicates that one or more generator or solenoid circuits have failed. The failed units are located and identified by passenger reading lights or attendant/lavatory oxygen module jewel lights that remain on.

R On Passenger Oxygen Controller with Telephonics SB432D-35-1, the OXYGEN and LATCH lights are deleted from the oxygen controller panel. Passenger read lights and attendant/lavatory oxygen module jewel lights are utilized as oxygen test indicators. A completely functional passenger oxygen system will be reflected in all reading and jewel lights turning off.

B. Operation

Placing the Normal/Test switch on the oxygen controller to TEST causes the oxygen test relay to energize and supply oxygen test commands to the oxygen sequence timer and compartment controller 1 (CC-1). CC-1 supplies a READING LIGHTS ON command to all decoders under its control. Compartment controller 4 (CC-4) is also instructed to supply a READING LIGHTS ON command to decoders under its control. All reading lights turn on.

As the sequence timer moves through its sequence steps, it supplies a 5V dc test voltage to 15 groups of generator firing circuits and mask door latch solenoid circuits. If the circuits are valid, they supply 2.5V dc signals to oxygen test modules in the respective decoders. The modules accept these voltages as good test results and command the reading lights to turn off. Voltage levels other than 2.5V dc caused by defective firing circuits or solenoids are interpreted as bad test results with the associated reading and jewel lights remaining on.

The oxygen test modules also send test results via the multiplex COMM line to their respective compartment

controllers. Test results, accepted by CC-4, are reported back to CC-1.

R On Passenger Oxygen Controller without Telephonics
R SB432D-35-1,
good test results from all decoders cause CC-1 to turn on the OXYGEN and LATCH indicator lights on the oxygen controller. Should any generator firing circuit or solenoid circuit fail the test, CC-1 will inhibit the illumination of the associated OXYGEN or LATCH light.

R # PASSENGER OXYGEN SYSTEM - FAULT ISOLATION

R 1. General

R Reference data and fault isolation procedures for troubleshooting Passenger Oxygen System faults are included in this section of the manual. A system malfunction detected by the flight crew is normally entered in the aircraft flight log book and reported to maintenance personnel with a FIRM fault code number. This number and the flight log book write-up can be found in the Chapter Fault Code Index. The index specifies the maintenance manual section, fault isolation diagram figure number and, where appropriate, a block number indicating the diagram entry point containing the fault isolation procedure. When no block number is specified, the diagram entry point is Block 1.

R PREREQUISITES listed at the top of each diagram identify mandatory preliminary steps and circuit breakers that must be closed before initiating any fault isolation step.

R Schematic diagrams, identified by a SCHEM number, supplement fault isolation procedures as maintenance aids. The schematics show the basic system circuitry necessary for troubleshooting and include cross-reference indexes to the wiring diagram manual pages required for checking component interconnection wiring.

R Figure 101, Component Location Index, is an alphabetical listing of all components associated with the Passenger Oxygen System. It gives the area and access of each component and its respective removal and installation reference.

R Figure 102, Component Locator Diagram, illustrates the location on the aircraft of all the components listed in the Component Location Index.

R Refer to the Maintenance Manual Introduction for a more detailed description of the Fault Isolation Reporting Method (FIRM) and use of fault isolation diagrams/schematics.

R 2. Fault Isolation/Identification

R Table 101 is a list of all fault isolation data in this section of the manual.

R R R R R

TABLE 101

FIGURE	TITLE
101	Component Location Index
102	Component Locator Diagram
103	Verify Oxygen Flow Indicator at Passenger Oxygen Controller
104	Passenger Oxygen System Test
105	Mask Drop Test
SCHEM 1	Passenger Oxygen System Electrical Schematic

COMPONENT	QTY	AREA/ACCESS	REFERENCE
ASSEMBLY – DOOR SOLENOID AND LATCH (1)	149	PASS COMPT, GALLEY/PSM, LAV, ATT AND GALLEY OXYGEN MODULES	35-21-04
ASSEMBLY – DOOR SOLENOID AND LATCH (2)	147	PASS COMPT, GALLEY/PSM, LAV, ATT AND GALLEY OXYGEN MODULES	35-21-04
CIRCUIT BREAKERS:			
PASS OXYGEN NORMAL GEN – DC 3521-CB2	1	CIRCUIT BREAKER PANEL NO. 1 (CB1) (J16)/210	•
PASS OXYGEN NORMAL MASK – DC 3521-CB1	1	CIRCUIT BREAKER PANEL NO. 1 (CB1) (J15)/210	•
PASS OXYGEN OVERRIDE GEN – DC 3521-CB4	1	CIRCUIT BREAKER PANEL NO. 1 (CB1) (J18)/210	•
PASS OXYGEN OVERRIDE MASK – DC 3521-CB3	1	CIRCUIT BREAKER PANEL NO. 1 (CB1) (J17)/210	•
CONTROL, INDICATOR LIGHTS BOX CARD 1A33	1	FESC, INDICATOR LIGHTS CONTROL BOX/112AB, 211CB	33-17-04
CONTROLLER, COMPARTMENT NO. 1	1	FWD PASS COMPT/CEILING PANEL 225CB	23-33-05
CONTROLLER, COMPARTMENT NO. 4	1	AFT PASS COMPT/CEILING PANEL 273GB	23-33-05
CONTROLLER, PASSENGER OXYGEN	1	FE/SO STATION, UPPER PANEL P11/215	35-21-01

EFFECTIVITY

(1) ON AIRCRAFT 001, 002, 015-999

(2) ON AIRCRAFT 003-004

*SEE WM EQUIPMENT LIST

M1-0000-35-468

Component Location Index
Figure 101 (Sheet 1)

EFFECTIVITY: ALL

0018

COMPONENT	QTY	AREA/ACCESS	REFERENCE
DIODES:			
3521-CR1	1	FWD PASS COMPT, OXYGEN SYSTEM RELAY PANEL/ CEILING PANEL 225CB	•
3521-CR2	1	FWD PASS COMPT, OXYGEN SYSTEM RELAY PANEL/ CEILING PANEL 225CB	•
3521-CR3	1	FWD PASS COMPT, OXYGEN SYSTEM RELAY PANEL/ CEILING PANEL 225CB	•
GENERATOR, CHEMICAL, OXYGEN (1)	149	PASS COMPT, GALLEY/PSM, LAV, ATT AND GALLEY OXYGEN MODULES	35-21-02
GENERATOR, CHEMICAL, OXYGEN (2)	147	PASS COMPT, GALLEY/PSM, LAV, ATT AND GALLEY OXYGEN MODULES	35-21-02
LAMP, INDICATOR OXYGEN FLOW	2	FE/SO STATION, UPPER PANEL P11, PASS OXYGEN CONTROLLER/215	20-33-04
RELAYS:			
MASK DROP	1	FWD PASS COMPT, OXYGEN SYSTEM RELAY PANEL/ CEILING PANEL 225CB	•
OXYGEN FLOW INDICATOR	1	FWD PASS COMPT, OXYGEN SYSTEM RELAY PANEL/ CEILING PANEL 225CB	•
OXYGEN SYSTEM TEST	1	FWD PASS COMPT, OXYGEN SYSTEM RELAY PANEL/ CEILING PANEL 225CB	•
POWER ISOLATION NO. 1	1	FWD PASS COMPT, OXYGEN SYSTEM RELAY PANEL/ CEILING PANEL 225CB	•
POWER ISOLATION NO. 2	1	FWD PASS COMPT, OXYGEN SYSTEM RELAY PANEL/ CEILING PANEL 225CB	•

EFFECTIVITY

(1) ON AIRCRAFT 001, 002, 015-999

(2) ON AIRCRAFT 003-014

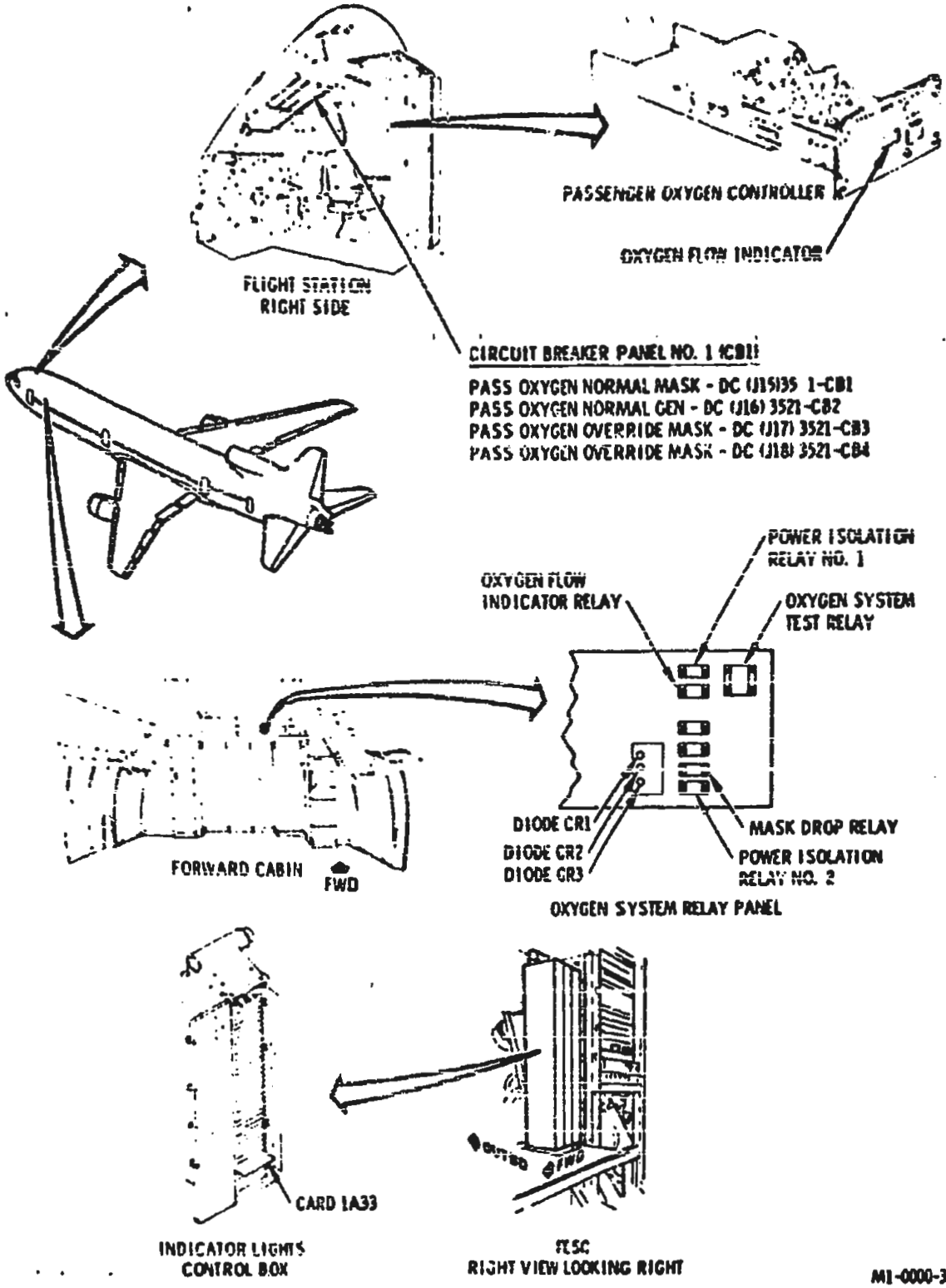
*SEE WM EQUIPMENT LIST

M1-0000-35-479

R R Component Location Index
Figure 101 (Sheet 2)

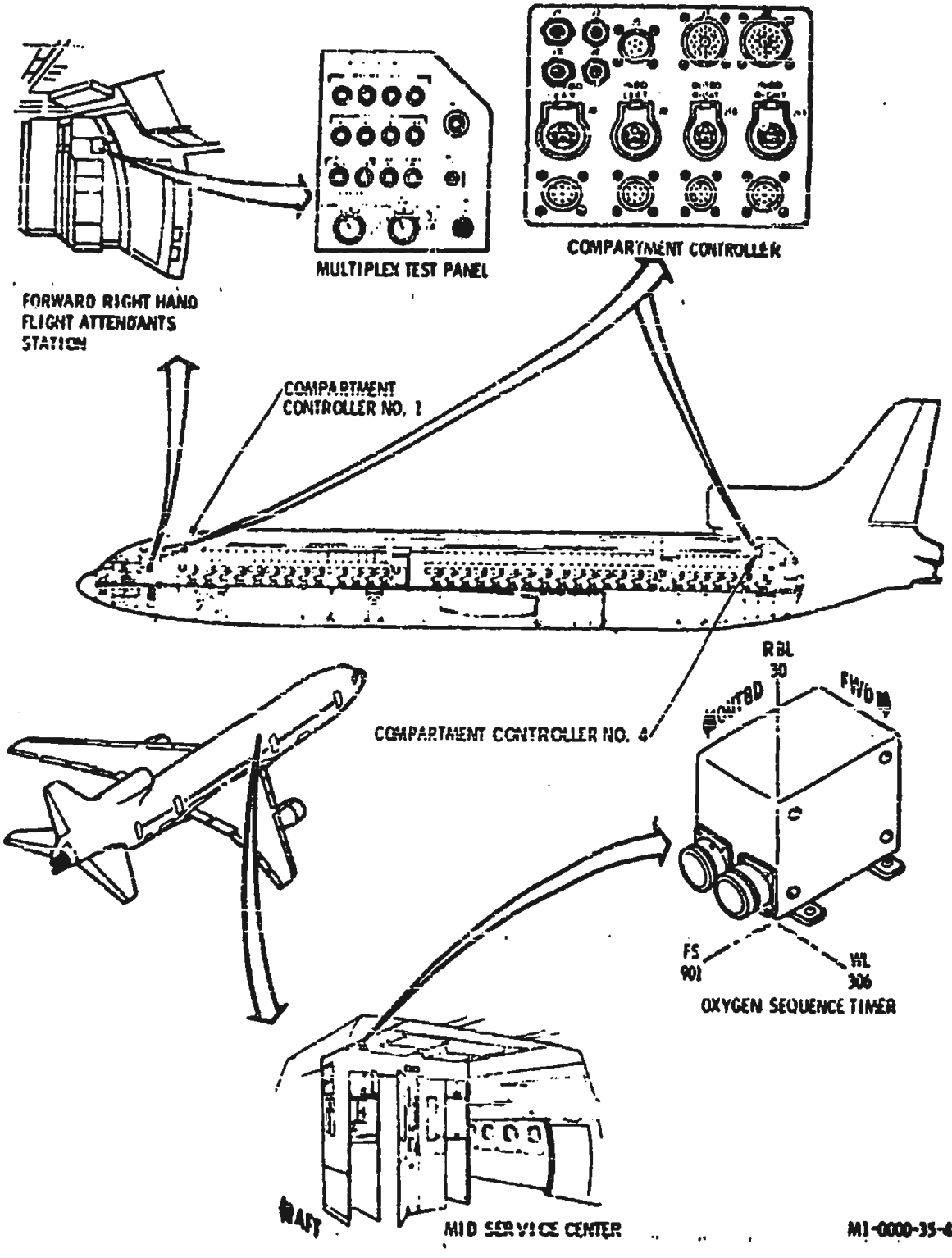
R R 001B EFFECTIVITY: ALL

COMPONENT	QTY	AREA/ACCESS	REFERENCE
TIMER, OXYGEN SEQUENCE	1	ABOVE RIGHT LIFT CEILING, MID SERVICE CENTER/ CEILING PANEL 26302	35-21-07



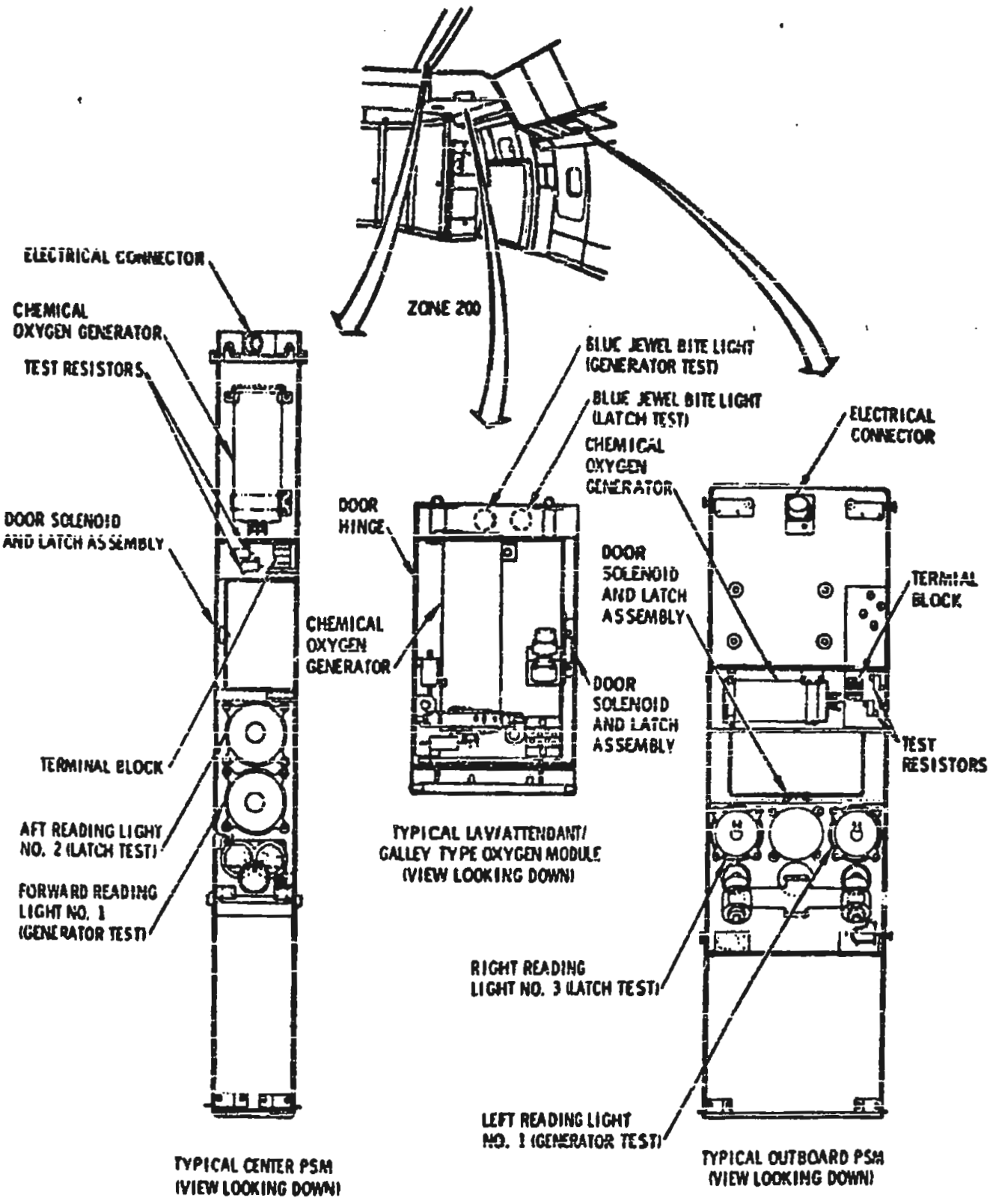
Component Locator Diagram
Figure 102 (Sheet 1)

EFFECTIVITY: ALL



Component Locator Diagram
Figure 102 (Sheet 2)

EFFECTIVITY: ALL


ZONE 200
ELECTRICAL CONNECTOR
CHEMICAL OXYGEN GENERATOR
TEST RESISTORS
DOOR SOLENOID AND LATCH ASSEMBLY
TERMINAL BLOCK
AFT READING LIGHT NO. 2 (LATCH TEST)
FORWARD READING LIGHT NO. 1 (GENERATOR TEST)
TYPICAL CENTER PSM (VIEW LOOKING DOWN)
BLUE JEWEL BITE LIGHT (GENERATOR TEST)
BLUE JEWEL BITE LIGHT (LATCH TEST)
DOOR HINGE
CHEMICAL OXYGEN GENERATOR
TYPICAL LAV/ATTENDANT/ GALLEY TYPE OXYGEN MODULE (VIEW LOOKING DOWN)
ELECTRICAL CONNECTOR
CHEMICAL OXYGEN GENERATOR
DOOR SOLENOID AND LATCH ASSEMBLY
TERMIAL BLOCK
DOOR SOLENOID AND LATCH ASSEMBLY
TEST RESISTORS
RIGHT READING LIGHT NO. 3 (LATCH TEST)
LEFT READING LIGHT NO. 1 (GENERATOR TEST)
TYPICAL OUTBOARD PSM (VIEW LOOKING DOWN)

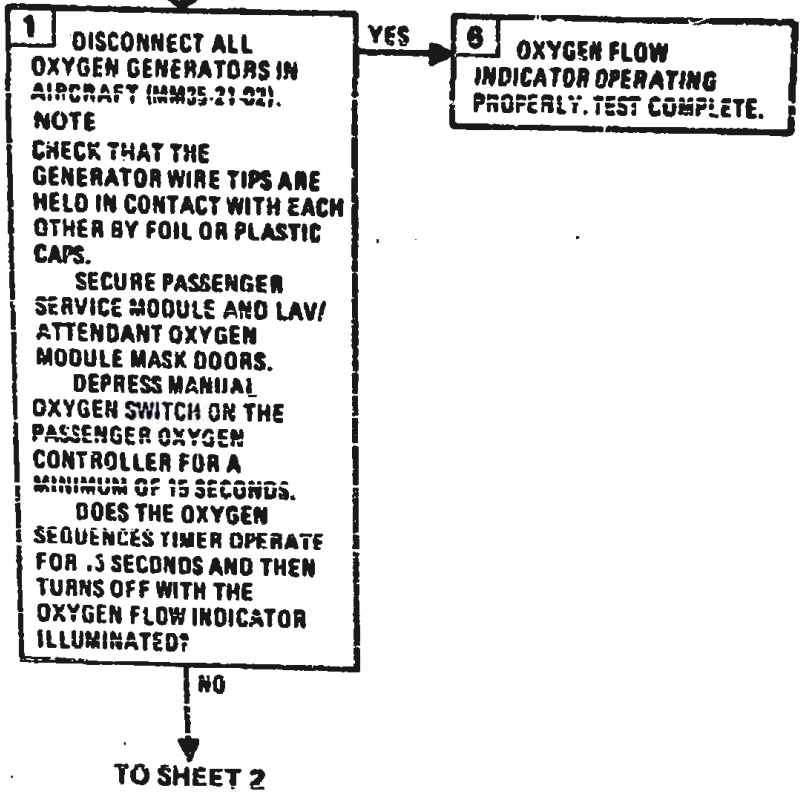
M1-0000-35-467

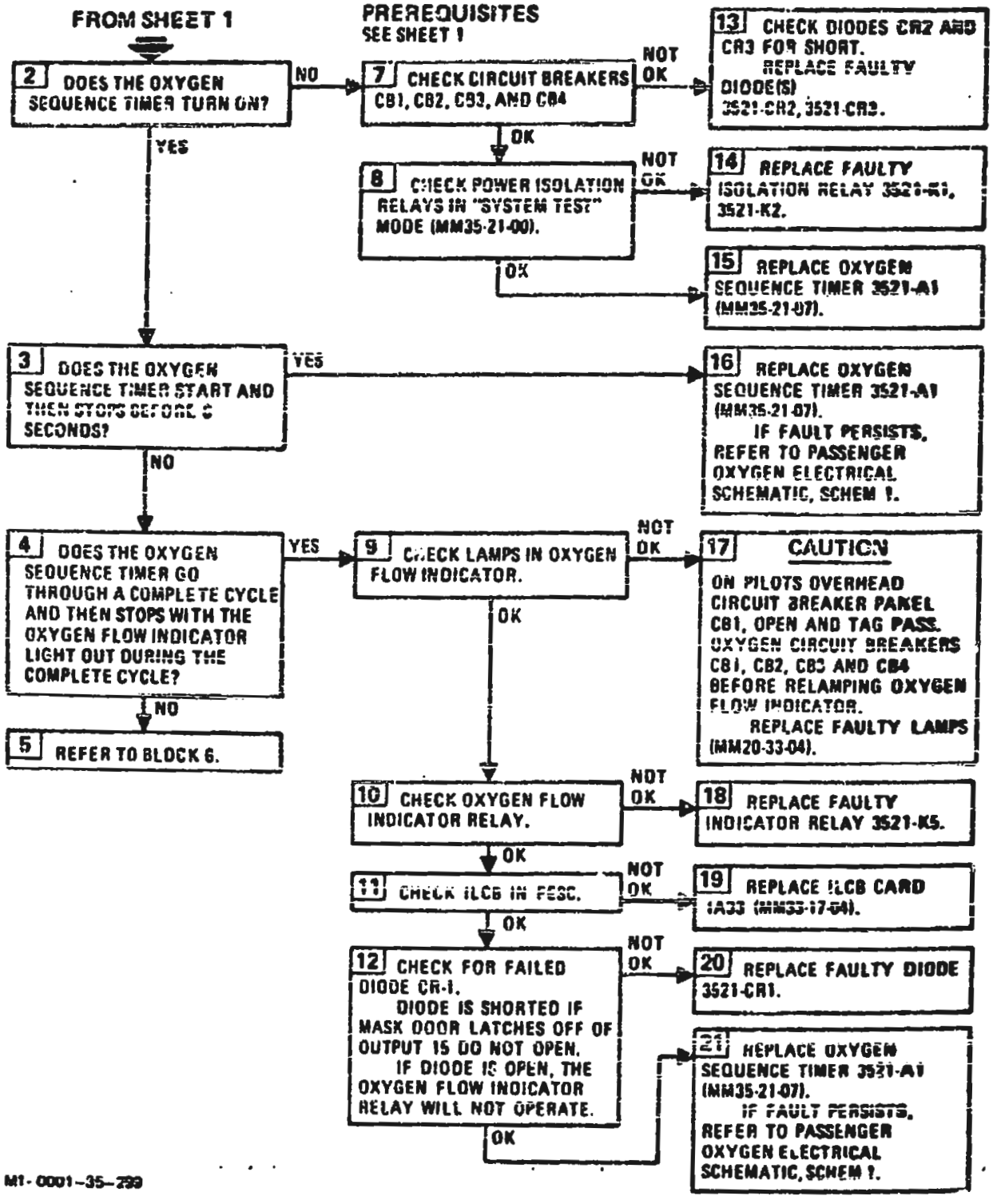
R Component Locator Diagram
R Figure 102 (Sheet 3)

R EFFECTIVITY: ALL

VERIFY OXYGEN FLOW INDICATOR AT PASSENGER OXYGEN CONTROLLER

PREREQUISITES
ELECTRICAL POWER
CB'S IN: CB1 (J15), CB2 (J16), CB3 (J17), CB4 (J18) ON PILOT OVERHEAD CB PANEL, CB1


1
DISCONNECT ALL OXYGEN GENERATORS IN AIRCRAFT (MM35-21-02).
NOTE
CHECK THAT THE GENERATOR WIRE TIPS ARE HELD IN CONTACT WITH EACH OTHER BY FOIL OR PLASTIC CAPS.
SECURE PASSENGER SERVICE MODULE AND LAV/ ATTENDANT OXYGEN MODULE MASK DOORS.
DEPRESS MANUAL OXYGEN SWITCH ON THE PASSENGER OXYGEN CONTROLLER FOR A MINIMUM OF 15 SECONDS.
DOES THE OXYGEN SEQUENCES TIMER OPERATE FOR .5 SECONDS AND THEN TURNS OFF WITH THE OXYGEN FLOW INDICATOR ILLUMINATED?
YES
6
OXYGEN FLOW INDICATOR OPERATING PROPERLY. TEST COMPLETE.
NO
TO SHEET 2


FROM SHEET 1
PREREQUISITES
SEE SHEET 1
2 DOES THE OXYGEN SEQUENCE TIMER TURN ON?
NO
YES
7 CHECK CIRCUIT BREAKERS CB1, CB2, CB3, AND CB4
NOT OK
OK
13 CHECK DIODES CR2 AND CR3 FOR SHORT. REPLACE FAULTY DIODE(S) 3521-CR2, 3521-CR3.
8 CHECK POWER ISOLATION RELAYS IN "SYSTEM TEST" MODE (MM35-21-00).
NOT OK
OK
14 REPLACE FAULTY ISOLATION RELAY 3521-K1, 3521-K2.
15 REPLACE OXYGEN SEQUENCE TIMER 3521-A1 (MM35-21-07).
3 DOES THE OXYGEN SEQUENCE TIMER START AND THEN STOPS BEFORE 6 SECONDS?
YES
NO
16 REPLACE OXYGEN SEQUENCE TIMER 3521-A1 (MM35-21-07). IF FAULT PERSISTS, REFER TO PASSENGER OXYGEN ELECTRICAL SCHEMATIC, SCHEM 1.
4 DOES THE OXYGEN SEQUENCE TIMER GO THROUGH A COMPLETE CYCLE AND THEN STOPS WITH THE OXYGEN FLOW INDICATOR LIGHT OUT DURING THE COMPLETE CYCLE?
YES
NO
9 CHECK LAMPS IN OXYGEN FLOW INDICATOR.
NOT OK
OK
17 CAUTION
ON PILOTS OVERHEAD CIRCUIT BREAKER PANEL CB1, OPEN AND TAG PASS. OXYGEN CIRCUIT BREAKERS CB1, CB2, CB3 AND CB4 BEFORE RELAMPING OXYGEN FLOW INDICATOR. REPLACE FAULTY LAMPS (MM20-33-04).
5 REFER TO BLOCK 6.
10 CHECK OXYGEN FLOW INDICATOR RELAY.
NOT OK
OK
18 REPLACE FAULTY INDICATOR RELAY 3521-K5.
11 CHECK ILCB IN FESC.
NOT OK
OK
19 REPLACE ILCB CARD 1A33 (MM33-17-04).
12 CHECK FOR FAILED DIODE CR-1. DIODE IS SHORTED IF MASK DOOR LATCHES OFF OF OUTPUT IS DO NOT OPEN. IF DIODE IS OPEN, THE OXYGEN FLOW INDICATOR RELAY WILL NOT OPERATE.
NOT OK
OK
20 REPLACE FAULTY DIODE 3521-CR1.
21 REPLACE OXYGEN SEQUENCE TIMER 3521-A1 (MM35-21-07). IF FAULT PERSISTS, REFER TO PASSENGER OXYGEN ELECTRICAL SCHEMATIC, SCHEM 1.
M1-0001-35-299

R Verify OXYGEN FLOW Indicator at Passenger Oxygen Controller
R Figure 103 (Sheet 2)

PASSENGER OXYGEN SYSTEM TEST

PREREQUISITES
ELECTRICAL POWER
CB'S IN: CB1 (J15), CB2 (J16), CB3 (J17), CB4 (J18) ON PILOT OVERHEAD CB PANEL, CB1

1 THE MULTIPLEX PASSENGER SERVICE SYSTEM MUST BE COMPLETELY OPERATIONAL. THE MULTIPLEX TEST PANEL WILL HAVE NO FAIL LIGHTS ILLUMINATED WHEN IN THE NORMAL POSITION.

REFER TO ADJUSTMENT/ TEST PASSENGER OXYGEN SYSTEM BITE TEST (MM35-21-00, 501) STEPS 1 THROUGH 13 TO VERIFY THAT ALL PREREQUISITES ARE FULFILLED BEFORE FAULT ISOLATION PROCEDURES ARE STARTED.

ON PASSENGER OXYGEN CONTROLLER, PLACE PATH SELECT SWITCH IN POSITION 1.

NOTE
PLACE PATH SELECT SWITCH IN POSITION 2 AND REPEAT STEPS 2 THROUGH 19 TO CHECK PATH 2.

CAUTION

DO NOT LEAVE SYSTEM TEST SWITCH IN TEST POSITION FOR LONGER THAN 15 MINUTES.

RAISE GUARD ON SYSTEM TEST SWITCH AND PLACE INTO TEST POSITION.

1 DOES THE OXYGEN SEQUENCE TIMER CYCLE FOR 15 SECONDS AND THEN TURNS OFF WITH THE OXYGEN AND LATCH LIGHTS ILLUMINATED? ARE ALL PASSENGER READING LIGHTS AND OXYGEN BITE LIGHTS OUT?

YES → 6 SYSTEM GOOD RETURN SYSTEM TEST SWITCH TO NORMAL.

NO → TO SHEET 2

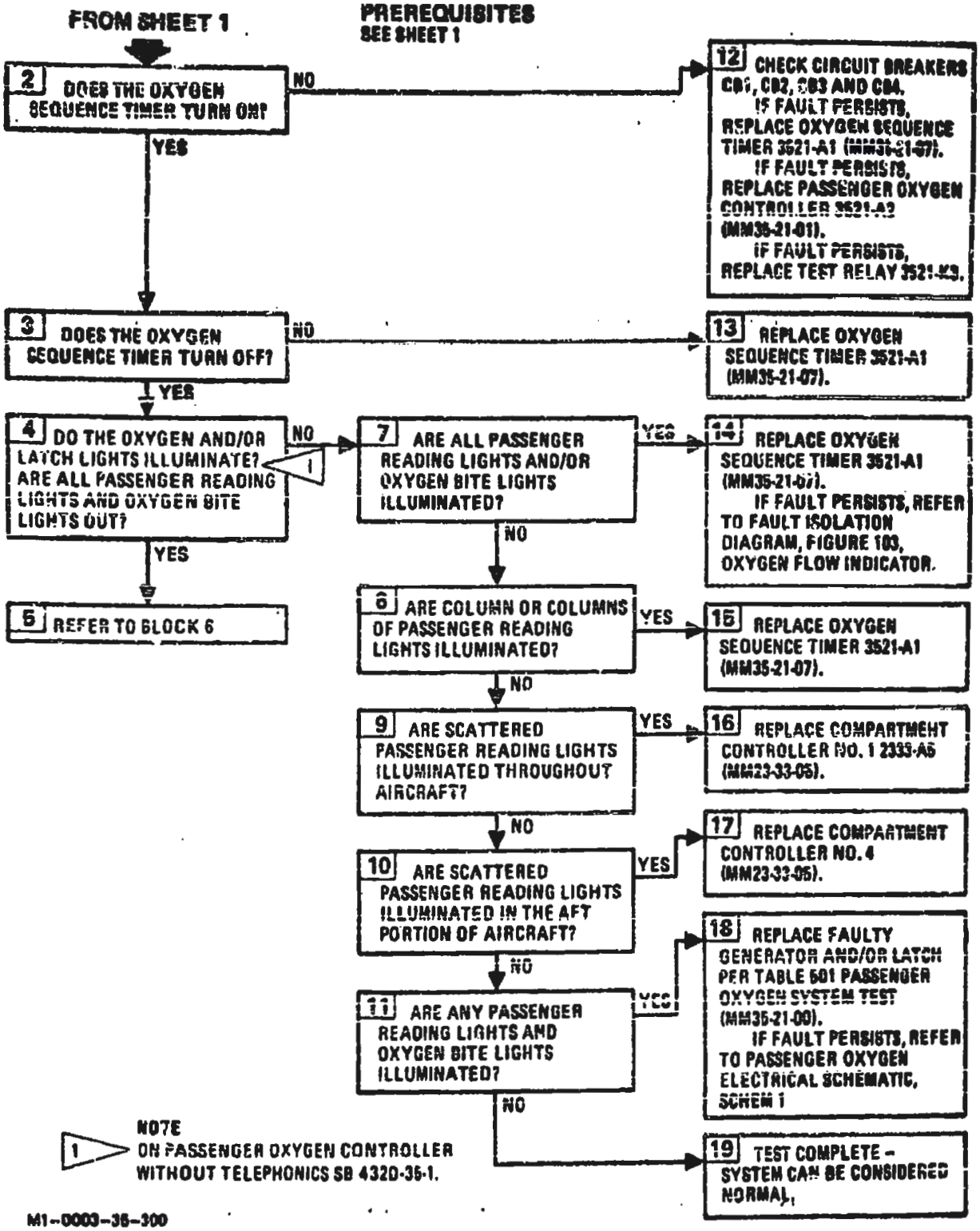
1 NOTE
ON PASSENGER OXYGEN CONTROLLER WITH TELEPHONICS SB432D-36-1, THE OXYGEN AND LATCH LIGHTS ON SYSTEM TEST PANEL ARE DELETED.

M1-0003-35-275

R Passenger Oxygen System Test
R Figure 104 (Sheet 1)

EFFECTIVITY: ALL

001B


FROM SHEET 1
PREREQUISITES
SEE SHEET 1
2 DOES THE OXYGEN SEQUENCE TIMER TURN ON?
NO
YES
12 CHECK CIRCUIT BREAKERS CB1, CB2, CB3 AND CB4.
IF FAULT PERSISTS, REPLACE OXYGEN SEQUENCE TIMER 3521-A1 (MM35-21-07).
IF FAULT PERSISTS, REPLACE PASSENGER OXYGEN CONTROLLER 3521-A2 (MM35-21-01).
IF FAULT PERSISTS, REPLACE TEST RELAY 3521-K3.
3 DOES THE OXYGEN SEQUENCE TIMER TURN OFF?
NO
YES
13 REPLACE OXYGEN SEQUENCE TIMER 3521-A1 (MM35-21-07).
4 DO THE OXYGEN AND/OR LATCH LIGHTS ILLUMINATE? ARE ALL PASSENGER READING LIGHTS AND OXYGEN BITE LIGHTS OUT?
NO
1
YES
5 REFER TO BLOCK 6
7 ARE ALL PASSENGER READING LIGHTS AND/OR OXYGEN BITE LIGHTS ILLUMINATED?
YES
14 REPLACE OXYGEN SEQUENCE TIMER 3521-A1 (MM35-21-07).
IF FAULT PERSISTS, REFER TO FAULT ISOLATION DIAGRAM, FIGURE 103, OXYGEN FLOW INDICATOR.
NO
8 ARE COLUMN OR COLUMNS OF PASSENGER READING LIGHTS ILLUMINATED?
YES
15 REPLACE OXYGEN SEQUENCE TIMER 3521-A1 (MM35-21-07).
NO
9 ARE SCATTERED PASSENGER READING LIGHTS ILLUMINATED THROUGHOUT AIRCRAFT?
YES
16 REPLACE COMPARTMENT CONTROLLER NO. 1 2333-A5 (MM23-33-05).
NO
10 ARE SCATTERED PASSENGER READING LIGHTS ILLUMINATED IN THE AFT PORTION OF AIRCRAFT?
YES
17 REPLACE COMPARTMENT CONTROLLER NO. 4 (MM23-33-05).
NO
11 ARE ANY PASSENGER READING LIGHTS AND OXYGEN BITE LIGHTS ILLUMINATED?
YES
18 REPLACE FAULTY GENERATOR AND/OR LATCH PER TABLE 501 PASSENGER OXYGEN SYSTEM TEST (MM35-21-00).
IF FAULT PERSISTS, REFER TO PASSENGER OXYGEN ELECTRICAL SCHEMATIC, SCHEM 1
NO
19 TEST COMPLETE - SYSTEM CAN BE CONSIDERED NORMAL.
1 NOTE
ON PASSENGER OXYGEN CONTROLLER WITHOUT TELEPHONICS SB 4320-35-1.
M1-0003-35-300

R R Passenger Oxygen System Test
Figure 104 (Sheet 2)

EFFECTIVITY: ALL

001B

P TEST

OMPLETE
GEN MASK
ECTION OF
AGE RACKS
35-21-00.
THE
GEN SYSTEM
IN
NISTMENT/

RE 1
TO ALL
YGEN AND
IT OXYGEN

DOORS TO
TO OPEN
ROXIMATELY
) DURING
DO PASSENGER
DROP TEST).

TION

EQUENCE
DESIGNED FOR
PERATION.
MINUTE
OD IS
BETWEEN EACH
THE UNIT DOES
LING WITHIN
ECONDS,
ER AND
TEST.

JTION

E MASK DROP
IN ON POSITION
THAN 15

ASSENGER
TROLLER TEST
VE SAFETY WIRE
ASK DROP TEST
POSITION FOR
S, THEN PLACE
TION.
E OXYGEN
TIMER CYCLE
NDS AND THEN
NITH THE MASK
NT DOORS OPEN?

NO

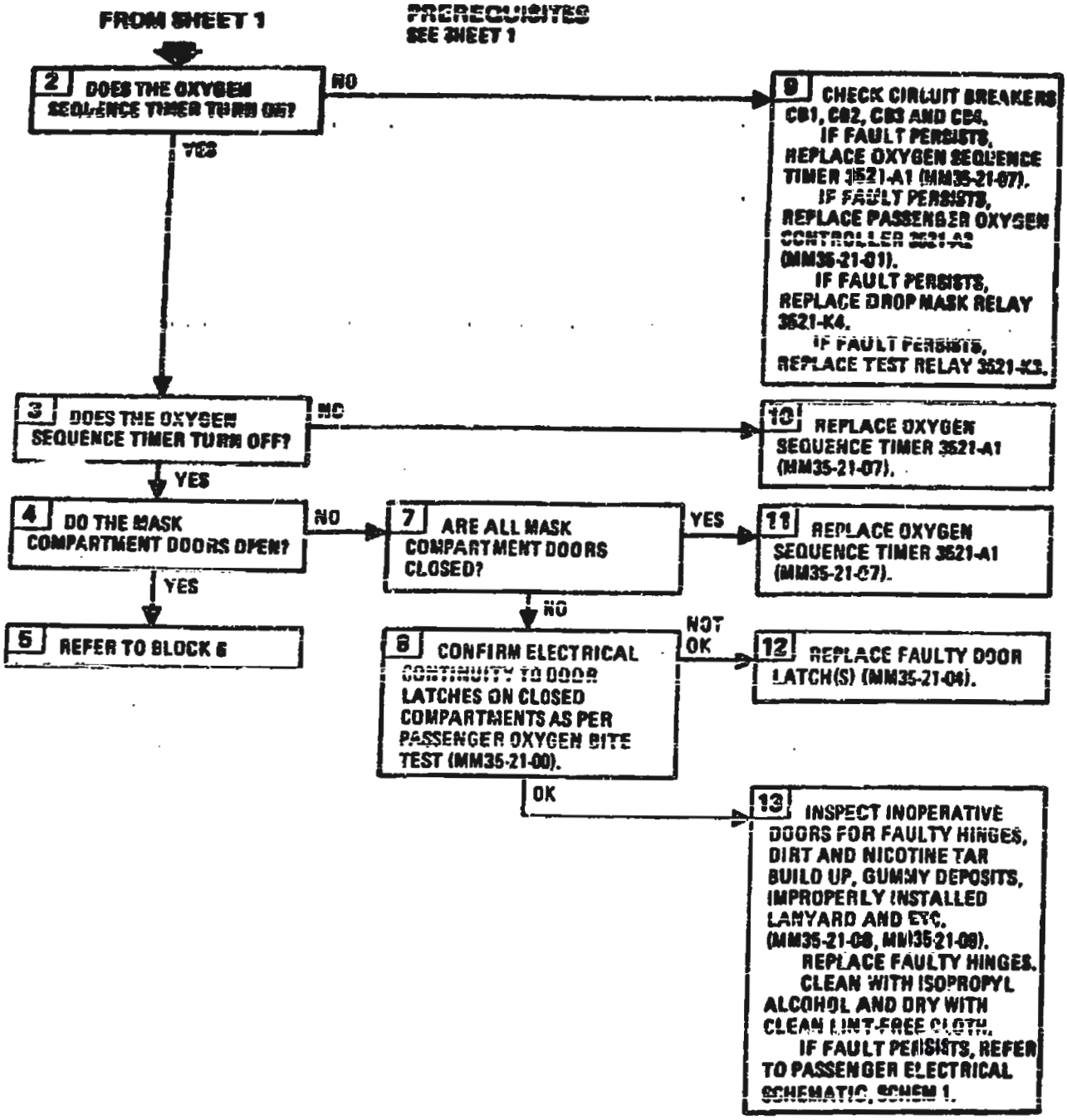
PREREQUISITES
ELECTRICAL POWER
CB'S IN: CB1 (J15), CB2 (J16), CB3 (J17), CB4 (J18) ON PILOT OVERHEAD CB PANEL, CB1

YES

6 MASK DOORS ARE OPERATION PROPERLY.
PLACE SWITCH GUARD DOWN TO COVER SWITCH AND SAFETY WIRE DOWN.
RELATCH MASK DOORS.

NOTE

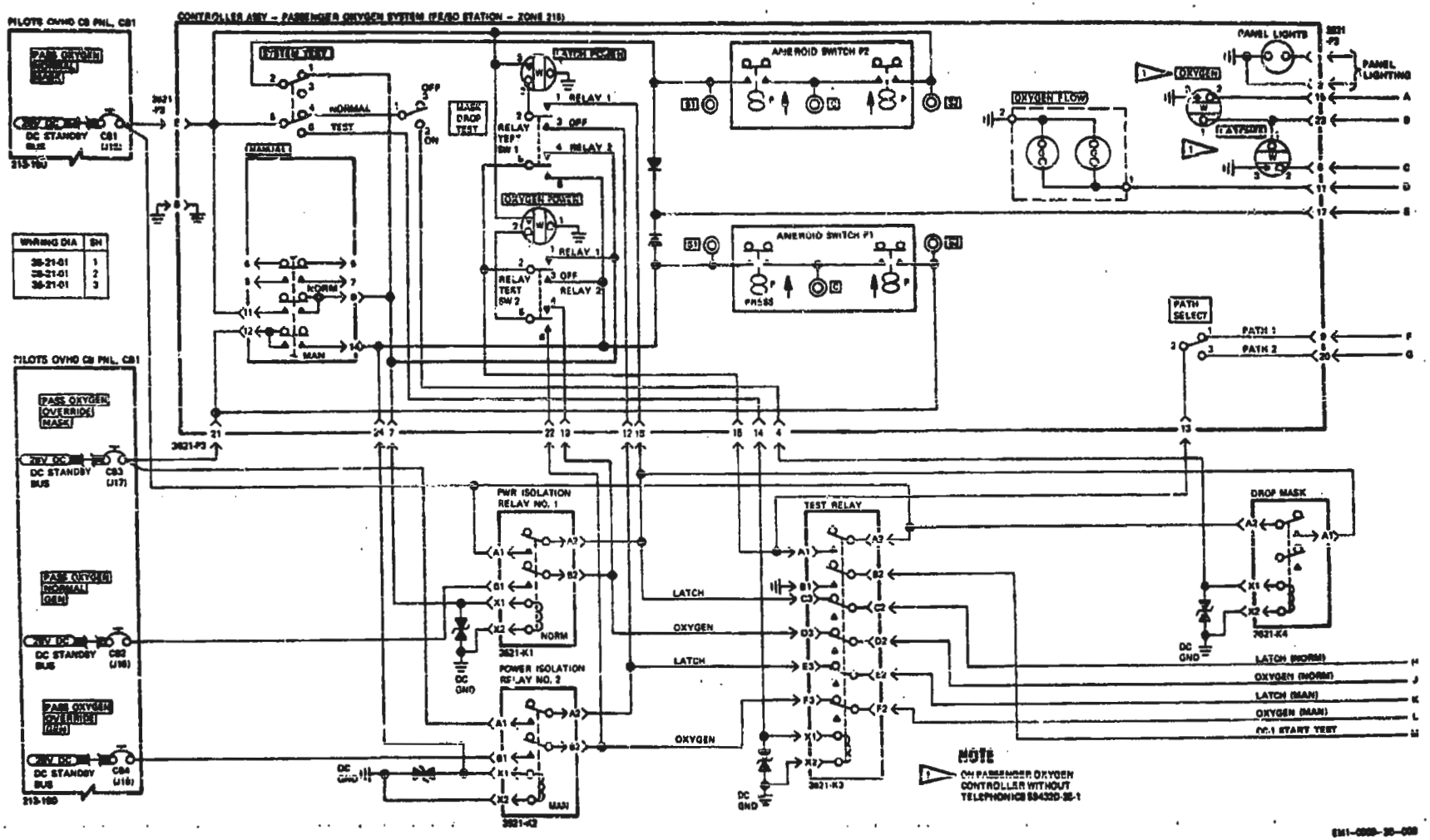
1 AIRCRAFT WITHOUT SB 35-033. WITH SB 35-033 INCORPORATED, INSERT PLUG TYPE DOOR RESTRAINT P/N DP 2314 (REF. 35-21-00, ADJ & TEST)


FROM SHEET 1
PREREQUISITES
SEE SHEET 1
2 DOES THE OXYGEN SEQUENCE TIMER TURN ON?
NO
YES
9 CHECK CIRCUIT BREAKERS CB1, CB2, CB3 AND CB4.
IF FAULT PERSISTS, REPLACE OXYGEN SEQUENCE TIMER 3521-A1 (MM35-21-07).
IF FAULT PERSISTS, REPLACE PASSENGER OXYGEN CONTROLLER 3521-A2 (MM35-21-01).
IF FAULT PERSISTS, REPLACE DROP MASK RELAY 3521-K4.
IF FAULT PERSISTS, REPLACE TEST RELAY 3521-K3.
3 DOES THE OXYGEN SEQUENCE TIMER TURN OFF?
NO
YES
10 REPLACE OXYGEN SEQUENCE TIMER 3521-A1 (MM35-21-07).
4 DO THE MASK COMPARTMENT DOORS OPEN?
NO
YES
7 ARE ALL MASK COMPARTMENT DOORS CLOSED?
YES
11 REPLACE OXYGEN SEQUENCE TIMER 3521-A1 (MM35-21-07).
NO
5 REFER TO BLOCK 6
6 CONFIRM ELECTRICAL CONTINUITY TO DOOR LATCHES ON CLOSED COMPARTMENTS AS PER PASSENGER OXYGEN BITE TEST (MM35-21-00).
NOT OK
12 REPLACE FAULTY DOOR LATCH(S) (MM35-21-04).
OK
13 INSPECT INOPERATIVE DOORS FOR FAULTY HINGES, DIRT AND NICOTINE TAR BUILD UP, GUMMY DEPOSITS, IMPROPERLY INSTALLED LANYARD AND ETC. (MM35-21-00, MM35-21-00).
REPLACE FAULTY HINGES. CLEAN WITH ISOPROPYL ALCOHOL AND DRY WITH CLEAN LINT-FREE CLOTH.
IF FAULT PERSISTS, REFER TO PASSENGER ELECTRICAL SCHEMATIC, SCHEM 1.

M1-0001-35-302

R
R

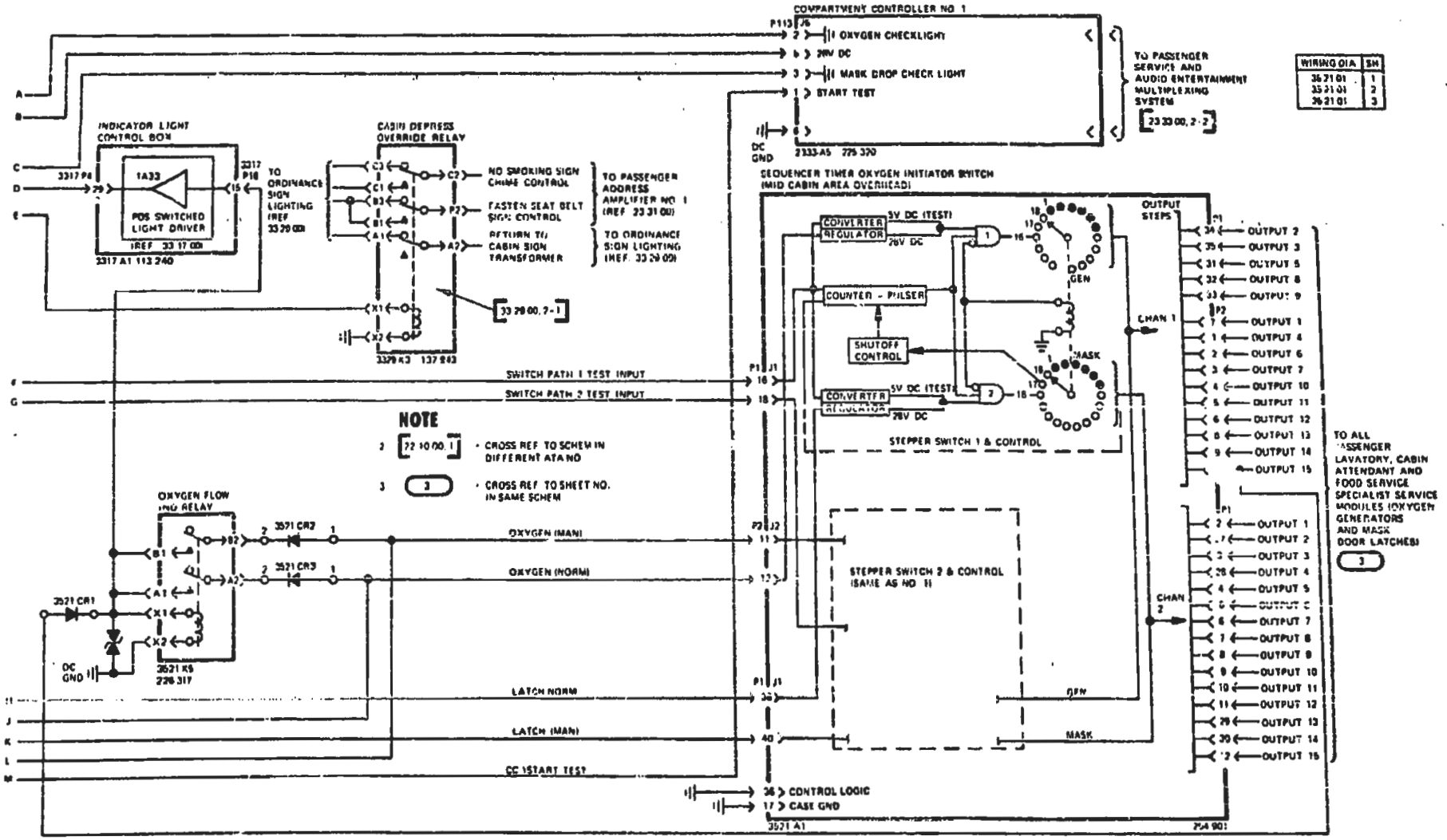
Mask Drop Test
Figure 105 (Sheet 2)



R Passenger Oxygen System Electrical Schematic
R SCHEM 1 (Sheet 1)

EFFECTIVITY: ALL

001B

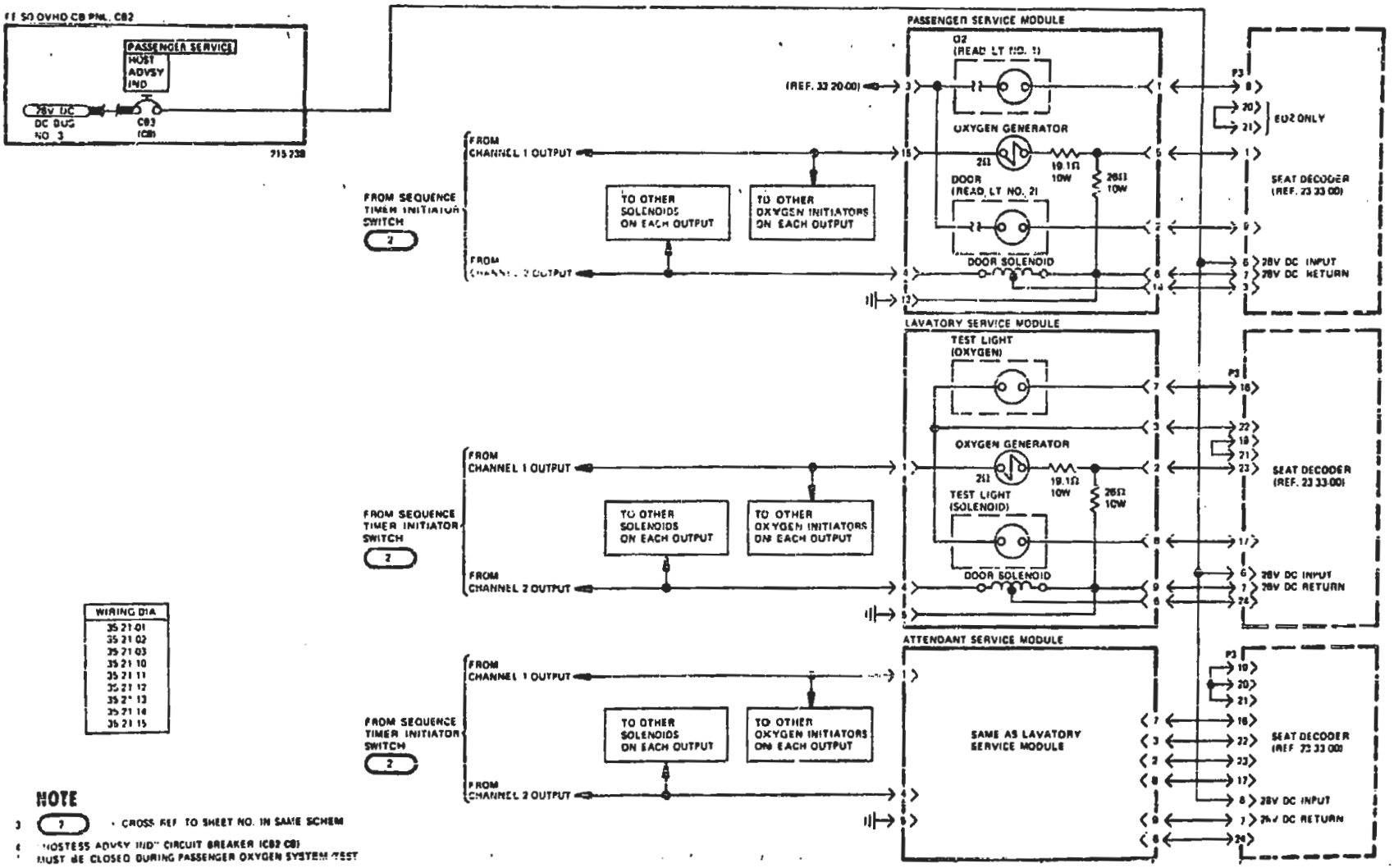


FM1 0007 35 0'1

Passenger Oxygen System Electrical Schematic
SCHEM 1 (Sheet 2)

EFFECTIVITY: ALL

001B



WIRING DIA
35 21 01
35 21 02
35 21 03
35 21 10
35 21 11
35 21 12
35 21 13
35 21 14
35 21 15

NOTE

3 (7) - CROSS REF TO SHEET NO. IN SAME SCHEM

4 "HOSTESS ADVSY IND" CIRCUIT BREAKER (C82 CB) MUST BE CLOSED DURING PASSENGER OXYGEN SYSTEM TEST

FM1 0705 35 020

R Passenger Oxygen System Electrical Schematic
R SCHEM 1 (Sheet 3)

EFFECTIVITY: ALL

0010

PASSENGER OXYGEN SYSTEM - MAINTENANCE PRACTICES

R NOTE: This deactivation procedure applies when an aircraft is
R to be dispatched in accordance with the MEL.

1. General

The maintenance practices for the passenger oxygen system outline the procedure to verify operation of the manual
R deployment system and required steps to be taken in the event
R passenger service modules (PSM) contain inoperative passenger
R oxygen facilities.

R NOTE: Paragraph 3C specifies the steps to verify passenger
R oxygen system operation after cabin modification.

R 2. Referenced Procedures

R	21-25-00	Electronic and Electrical Equipment Cooling Systems
R	24-41-00	External Power/Ground Service System
R	35-25-01	Passenger Oxygen Controller

R 3. Procedures

R A. Passenger Oxygen Controller MANUAL Deploy Switch -
R Operational Verification

R (1) Turn on cooling air and electrical power, reference
R 21-25-00 and 24-41-00.

R CAUTION: CIRCUIT BREAKERS LISTED IN THE FOLLOWING STEP (2)
R MUST BE OPEN AND TAGGED PRIOR TO PROCEEDING WITH
R THIS TEST. FAILURE TO COMPLY WITH THIS CAUTION
R WILL CAUSE AUTOMATIC DEPLOYMENT OF PASSENGER
R OXYGEN MASKS AND OXYGEN GENERATOR ACTIVATION.

R (2) On pilots overhead circuit breaker panel, CB1, open and
R tag the following circuit breakers:

R PASS OXYGEN-NORMAL - MASK (J15)

R PASS OXYGEN-NORMAL - GEN (J16)

R PASS OXYGEN-OVERRIDE - MASK (J17)

R PASS OXYGEN-OVERRIDE - GEN (J18)

R EFFECTIVITY: ALL
R
001B

(3) Release PASSENGER OXYGEN controller panel and slide chassis out of rack to gain access to chassis (Ref. 35-21-01).

NOTE: The panel light on top of the chassis is for panel illumination and is energized from the 5V AC lighting bus. The light is not required in this procedure.

(4) Place ohmmeter leads in P2 jacks S1 and S2.

(5) Lift switch guard on PASSENGER OXYGEN Controller MANUAL switch.

Depress and release the MANUAL switch; observe ohmmeter readout and illumination of switch lens (MASKS DEPLD).

(6) Ohmmeter should reflect full continuity (no resistance) verifying proper operation of MANUAL switch contact.

(7) Depress and release MANUAL switch; verify that ohmmeter reflects infinity (open circuit) and switch lens is not illuminated.

(8) Position guard over MANUAL switch.

(9) Disconnect ohmmeter leads from controller.

(10) Slide PASSENGER OXYGEN controller chassis into FE/SO panel and secure (Ref. 35-21-01).

(11) Remove tags and close circuit breakers previsouly opened (CB1, J15, J16, J17, and J18).

(12) Turn off cooling air and electrical power if not required, reference 21-25-00 and 24-41-00.

(13) Install placard on FE/SO panel, AUTO DEPLOY of PAX OXY SYS INOP.

(14) Make appropriate entry in aircraft log book.

B. Inoperative Passenger Oxygen System (Passenger Service Module-PSM)

NOTE: Two passenger service modules (PSM) in each of the cabin zones may have an inoperative passenger oxygen system provided the two PSMs are not adjacent to each other (forward and aft, left and right).

R (1) Block off the seats that are normally associated with
R the PSM(s) that have the inoperative passenger oxygen
R system modules installed.

R (2) Install placard on the FE/SO panel, PAY OXY FOR SEAT(s)
R NOT AVAILABLE.

R (3) Make appropriate entry in aircraft log book.

CR (C) Maintenance Notes, Data, Tolerances and Regulations

CR (1) Checkout Requirements After Cabin Modification

CR NOTE: The following guidelines will determine the oxygen system maintenance procedure required after cabin modification and/or maintenance involving Passenger Service Modules (PSM):

(a) When shifting of a PSM, within its limited travel range, is specified, a callout should be made to check mask packing details after the work is accomplished. Reference the following Chapter/Sections:

Center PSM's	35-21-08
Outboard PSM's	35-21-09
Lavatory/Cabin Attendant	35-21-10

(b) After relocating and/or reinstalling a PSM, a callout should be made to check mask packing (per 1(a) above) and to conduct an electrical continuity (BITE) check of the passenger oxygen system per Chapter/Section 35-21-00, Page 503, Paragraph 4A.

PASSENGER OXYGEN SYSTEM - ADJUSTMENT AND TEST

1. General

The passenger oxygen system Built In Test Equipment (BITE) test is dependent on proper operation of the multiplexed passenger service system (PSS - Ref. 23-33-00). When the passenger oxygen system is switched to the test mode, a ground is connected to PSS compartment controller No. 1, which switches the PSS to the O_2 (Oxygen) test mode.

The PSS O_2 test mode is similar to the READ LT ON test mode. The system goes into double-speed, one-way operation from compartment controllers No. 1 and No. 4. All passenger reading lights, and all attendant and lavatory oxygen module test lights are turned on. The oxygen sequencer then applies 5V dc to each oxygen generator and door latch for at least 330 milliseconds. The 5V dc is center-tapped at each generator and latch, connecting 2.5V dc signals to a corresponding PSS decoder if the generator/latch tests good.

The PSS decoder samples oxygen generator and latch inputs once each frame (328 milliseconds). If +2.5V dc appears at the decoder input(s) during any frame, the decoder circuits latch in the O_2 test good condition. The decoder turns off corresponding reading light or oxygen module test light (Ref. Table 501), and transmits a test good pulse to the corresponding compartment controller (compartment controller No. 1 for the forward community; compartment controller No. 4 for the aft community).

Each seat electronics unit transmits a check bit to compartment controller during each frame. The compartment controller uses check bits to count seat groups. If there is an oxygen and a latch test good pulse for each seat group in both communities, compartment controller No. 1 provides grounds through transistor light drivers to turn on OXYGEN and LATCHES lights on the PASSENGER OXYGEN controller panel.

R NOTE: On Passenger Oxygen Controller with Telephonics
R SB432D-35-1, the OXYGEN and LATCH indicator lights on SYSTEM TEST panel are deleted. Passenger reading lights and attendant/lavatory oxygen module lights are utilized as oxygen test indicators.

If any decoder fails to transmit an oxygen-generator, or a latch-test-good pulse; or, if compartment controller oxygen test circuits malfunction, the OXYGEN and/or LATCHES light(s) will not come on. If failure is due to a defective oxygen generator or latch, corresponding reading light or oxygen module test

light will remain on to indicate location of the failed unit (Ref. Fig. 501 and Table 501).

If all reading lights and oxygen module test lights are off, and all lights test good in READ LT OM test mode, a defective compartment controller or decoder is indicated (oxygen system test successful).

WARNING: DO NOT APPLY ANY TYPE OF LUBRICANT TO OXYGEN DOOR LATCH MECHANISM. LATCH MAY BE CLEANED USING ISOPROPYL ALCOHOL (FED SPEC TP-1-735 OR EQUIVALENT) AND DRIED WITH A CLEAN LINT-FREE CLOTH.

2. Equipment and Materials

Air Data Tester, Milhard Engineering Co., PN 127, or equivalent

Pitot - Static Adapter Kit, Milhard Engineering Co., PN 127-1011, or equivalent

Ohmmeter, Simpson PN 260, or equivalent

Pressure-Sensitive Tape, Permacel PN 68, 1-inch, red, or equivalent

R Oxygen Mask Compartment Latching Tool, PN BF 83-101, or equivalent

Oxygen Mask Compartment Latch Release Tool, PN 1617049, or equivalent

Safety Wire, Fed. Spec QQ-W-343 Type S, 0.020-inch diameter, or equivalent

Plug-Type Door Restraint, Deltar (Division Illinois Tool Works Inc.) PN DP2314.

3. Referenced Procedures

21-25-00	Electronic and Electrical Service Centers Exhaust Air Systems - Adjustment and Test
23-33-00	Passenger Audio Entertainment and Service System - Fault Isolation
23-33-05	Compartment Controller - Removal and Installation
23-33-06	Decoder - Removal and Installation
23-33-08	Power Supply - Removal and Installation.

24-00-00	Electrical Power - Maintenance Practices
35-21-00	Passenger Oxygen System - Description and Operation
35-21-00	Passenger Oxygen System - Fault Isolation
35-21-02	Fixed Chemical Oxygen Generator - Removal and Installation
35-21-04	Mask Door Latch - Removal and Installation
35-21-07	Oxygen Initiator Sequence Timer Switch - Removal and Installation
35-21-08	Oxygen Mask Stowage Rack, Center Passenger Service Module - Removal and Installation
35-21-08	Oxygen Mask Stowage Rack, Center Passenger Service Module - Inspection and Check
35-21-09	Oxygen Mask Stowage Rack, Outboard Passenger Service Module - Removal and Installation
35-21-09	Oxygen Mask Stowage Rack, Outboard Passenger Service Module - Inspection and Check
35-21-10	Lavatories, Cabin Attendants, and Food Specialists Mask Racks - Removal and Installation
35-21-10	Lavatories, Cabin Attendants, and Food Service Specialists Mask Racks - Inspection and Check

4. Adjustment/Test

CR CR CR NOTE: Any of the following test procedures or any combination thereof may be used to verify the integrity of the passenger oxygen system.

A. Passenger Oxygen System BITE Test

(1) Turn on electrical power (Ref. 24-00-00).

(2) Verify exhaust air flow at forward electronic service center air outlet on lower right forward fuselage, below flight station windows (feel for air flow with hand - Ref. 21-25-00).

(3) Verify exhaust air flow at mid electrical service center exhaust air outlet on bottom of left wing leading edge fillet (feel for air flow with hand - Ref. 21-25-00).

(4) On galley left circuit breaker panel, zone 131, verify that circuit breakers POWER - PASS. SVCE MDL - 1, 2, 3, 4, 5, 6, 7, and 8 are closed (Ref. Fig. 502).

On galley right circuit breaker panel, zone 131, verify that POWER SUPPLY MULTIPLEXED PASS. SERVICE and COMPT CONT FANS circuit breakers are closed.

(5) In mid electrical service center at left equipment rack, zone 137, verify that multiplex system power supply POWER - CB1 switch is in NORMAL position, and all circuit breakers on front panel are closed.

C (6) On aircraft 001-017 with SB23-030 and on 018-999, on Flight Engineer/Second Officers (FE/SO) overhead circuit breaker panel CB2, zone 215, verify that HOST ADVSY IND (C8) and MULTIPLEX SYS - CC 2, 3 (D10), and CC 1, 4 (D11) are closed.

(7) At MULTIPLEXER PSS/PES TEST panel, zone 224, verify that service and entertainment selector switches are in NORM position. Depress LAMP TEST switch observe panel lights, then release switch. Verify the following:

(a) With LAMP TEST switch depressed, all test panel lights are on.

(b) With LAMP TEST switch released, all test panel lights are out (if any lights are on with switch released, Ref. 23-33-00 for passenger service system fault isolation). Do not continue oxygen system BITE test with any COMPARTMENT CONTROLLER or SERVICE ZONE lights on.

CR (8) Test Procedure using the OXYGEN & LATCH indicator
CR lights ("Snake eyes").

CR NOTE: This test procedure may be used to verify the
CR integrity of the PAX oxygen system.

CR (a) At MULTIPLEXER PSS/PES TEST panel, perform the
CR following steps:

CR 1) Turn test panel service selector switch to
CR READ LT - ON position.

CR • Verify all lavatory, cabin attendant and
CR passenger PSM's have at least one lamp illuminated
CR to insure all modules are installed in the system.

CR NOTE: Discregard lights in PSM's over any AUX
CR bars and bag racks. These are installed

for work lights only. Also discregard extra PSM's.

2) Turn test panel service selector switch to READ LT - OFF position.

• Verify that all lavatory and cabin oxygen module test lights are off and all passenger reading lights are off.

3) Return service selector switch to NORMAL.

WARNING: REMOVE ALL POTENTIAL OXYGEN HAZARDS SUCH AS LIGHTED CIGARETTES, OIL, GREASE DIRT, LINT AND HOT SOLDERING IRONS. HAVE FIRE EXTINGUISHERS AVAILABLE AND AIRCRAFT DOORS OPEN.

CAUTION: THE MANUAL SWITCH ON THE PASSENGER OXYGEN CONTROLLER FRONT PANEL IS NOT SAFETIED, THEREFORE EXTREME CARE MUST BE TAKEN NOT TO INADVERTENTLY PRESS THE SWITCH. IF THE SWITCH IS PRESSED, ALL PASSENGER OXYGEN GENERATORS WILL IGNITE AND THE OXYGEN MASKS WILL DROP. ONCE GENERATORS IGNITE, THERE IS NO WAY TO STOP THEM. IT COSTS APPROXIMATELY 52,000 DOLLARS TO REPLACE THE OXYGEN MASKS AND ALL GENERATORS.

(b) On pilots overhead circuit breaker panel CB1, zone 210, verify that circuit breakers PASS. OXYGEN NORMAL MASK (J15) and GEN (J16) and PASS. OXYGEN OVERRIDE MASK (J17) and GEN (J18) are closed.

(c) On FE/SO LIGHTS panel, depress WARNING CAUTION ADVISORY TEST switchlight.

1) Verify that OXYGEN FLOW indicator light on PASSENGER OXYGEN controller front panel comes on (if indicator light does not turn on, Ref. 33-17-00 for oxygen panel indicator signals fault isolation).

(d) Release switchlight.

1) Verify that indicator light goes off.

(e) Release PASSENGER OXYGEN controller and slide chassis out of rack enough to gain access to test panel on top of chassis (Ref. Fig. 503).

NOTE: The PANEL light on top of chassis is for panel illumination, and is energized from 5V AC lighting bus. Light is not required for test.

(f) On PASSENGER OXYGEN controller, press and release LATCHES, OXYGEN, LATCH POWER and OXYGEN POWER press-to-test indicator lights.

NOTE: If the OXYGEN & LATCH indicator lights are not installed, S/B 434D-35-1 has been accomplished and therefore test procedure 4.A.(8) does not apply and test procedure 4.A.(9) must be used.

(f.1) Open CB J16 and CB J18.

(g) Place PATH SELECT switch in position 1.

(h) On PASSENGER OXYGEN controller, raise guard on SYSTEM TEST switch and place switch to TEST position.

CAUTION: DO NOT LEAVE SYSTEM TEST SWITCH IN TEST POSITION FOR LONGER THAN 15 MINUTES.

1) After approximately 15 seconds, verify that LATCHES and OXYGEN indicator lights on controller come on.

NOTE: Verify that sequence timer switch is not cycling. Sequence timer is located above ceiling, forward of right galley lift, and can be heard when standing in that location. If timer cycles continuously, place SYSTEM TEST switch in NOR position and replace timer (Ref. 35-21-07). The oxygen initiator sequence timer switch cycles for 15 seconds. Do not change position of SYSTEM TEST switch or PATH SELECT switch except at end of cycle (after timer switch has stopped cycling) unless switch cycles continuously.

2) If LATCHES and OXYGEN lights come on, a valid oxygen test for path position 1 has been accomplished. Proceed on to Step 4.A.(8)(h.1). If either light does not come on, place the TEST switch to NOR position and proceed to Step 4.A.(9).

(h.1) Close CB J16 and CB J18.

C (i) Hold LATCH POWER switch in RELAY 1 position.

C a) Verify that LATCH POWER light comes on.

C (j) Release switch.

C a) Verify that LATCH POWER light goes off.

C (k) Hold LATCH POWER switch in RELAY 2 position.

C a) Verify that LATCH POWER light comes on.

CR (l) Release switch.

C a) Verify that LATCH POWER light goes off.

C (m) Hold OXYGEN POWER switch in RELAY 1 position.

C a) Verify that OXYGEN POWER light comes on.

C (n) Release switch.

C a) Verify that OXYGEN POWER light goes off.

C (o) Hold OXYGEN POWER switch in RELAY 2 position.

C a) Verify that OXYGEN POWER light comes on.

C (p) Release switch.

C a) Verify that OXYGEN POWER light goes off.

C (q) Place SYSTEM TEST switch in NOR position.

C a) On PASSENGER OXYGEN controller with OXYGEN &
C LATCH lights, verify that the lights go off.

C CAUTION: OXYGEN SEQUENCE TIMER IS NOT DESIGNED FOR
C CONTINUOUS OPERATION. A 15 MINUTE COOLING
C PERIOD IS REQUIRED BEFORE CONTINUING TEST.

CR (r) Open CB's J16 and J18 on pilot's overhead CB panel
CR CB1.

CR (s) Place PATH SELECT switch in position 2.

CR (t) Place SYSTEM TEST switch in TEST position.

C 1) After approximately 15 seconds, verify that
C LATCHES and OXYGEN indicator lights on controller
C come on.

NOTE: Verify that sequence timer switch is not cycling. Sequence timer is located above ceiling, forward of right galley lift, and can be heard when standing in that location. If timer cycles continuously, place SYSTEM TEST switch in NOR position and replace timer (Ref. 35-21-07). The oxygen initiator sequence timer switch cycles for 15 seconds. Do not change position of SYSTEM TEST switch or PATH SELECT switch except at end of cycle (after timer switch has stopped cycling) unless switch cycles continuously.

2) If LATCHES and OXYGEN lights come on, a valid oxygen test for path position 2 has been accomplished. If either light does not come on, place the test switch to NOR position and proceed to Step 4.A.(9).

(9) Test procedure when the OXYGEN & LATCH indicator lights have been removed per S/B 4320-35-1 or when the OXYGEN & LATCH lights do not illuminate during the 4.A.(8) test procedure.

NOTE: This test procedure may be used to verify the integrity of the PAX oxygen system.

(a) At MULTIPLEXER PSS/PES TEST panel, perform the following steps:

1) Turn test panel service selector switch to READ LT - ON position.

• Verify that all lavatory and cabin attendant oxygen module test lights are on, and all passenger reading lights are on.

NOTE: Disregard lights in PSM's over any AUX bars and bag racks. These are installed for work lights only. Also disregard extra PSM's.

2) Turn test panel service selector switch to READ LT - OFF position.

• Verify that all lavatory and cabin oxygen module test lights are off and all passenger reading lights are off.

3) Return service selector switch to READ LT-ON position.

WARNING: REMOVE ALL POTENTIAL OXYGEN HAZARDS SUCH AS LIGHTED CIGARETTES, OIL, GREASE, DIRT, LINT AND HOT SOLDERING IRONS. HAVE FIRE EXTINGUISHERS AVAILABLE AND AIRCRAFT DOORS OPEN.

(b) On pilots overhead circuit breaker panel CB1, zone 210, verify that circuit breakers PASS. OXYGEN NORMAL MASK (J15) and GEN (J16) and PASS. OXYGEN OVERRIDE MASK (J17) and GEN (J18) are closed.

(c) On FE/SO LIGHTS panel, depress WARNING CAUTION ADVISORY switchlight.

1) Verify that OXYGEN FLOW indicator light on PASSENGER OXYGEN controller front panel comes on (if indicator light does not turn on, Ref. 33-17-00 for panel indicator signals oxygen system fault isolation).

(d) Release switchlight.

1) Verify that indicator light goes off.

CAUTION: THE MANUAL SWITCH ON THE PASSENGER OXYGEN CONTROLLER FRONT PANEL IS NOT SAFETIED, THEREFORE EXTREME CARE MUST BE TAKEN NOT TO INADVERTENTLY PRESS THE SWITCH. IF THE SWITCH IS PRESSED, ALL PASSENGER OXYGEN GENERATORS WILL IGNITE AND THE OXYGEN MASKS WILL DROP. ONCE GENERATORS IGNITE, THERE IS NO WAY TO STOP THEM. IT COSTS APPROXIMATELY 52,000 DOLLARS TO REPLACE THE OXYGEN MASK AND ALL GENERATORS.

(e) Release PASSENGER OXYGEN controller and slide chassis out of rack enough to gain access to test panel on top of chassis (Ref. Fig. 503).

NOTE: The PANEL light on top of chassis is for panel illumination, and is energized from 5V AC lighting bus. Light is not required for test.

(f) On PASSENGER OXYGEN controller, press and release LATCH POWER and OXYGEN POWER press-to-test indicator lights.

1) Verify that lights come on when pressed and go off when released.

CR (f.1) Open CB J16 and CB J18.

(g) Place PATH SELECT switch in position 1.

(h) On PASSENGER OXYGEN controller, raise guard on SYSTEM TEST switch and place switch to TEST position.

1) After approximately 15 seconds, verify that all passenger read lights, lavatory and attendant oxygen module lights are off.

NOTE: Verify that sequence timer switch is not cycling. Sequence timer is located above ceiling, forward of right galley lift, and can be heard when standing in that location. If timer cycles continuously, place SYSTEM TEST switch in NOR position and replace timer (Ref. 35-21-07). The oxygen initiator sequence timer switch cycles for 15 seconds. Do not change position of SYSTEM TEST switch or PATH SELECT switch except at end of cycle (after timer switch has stopped cycling) unless switch cycles continuously.

2) An illuminated light indicates location and type of fault (Ref. Table 501).

3) If every PSM reading light and lavatory/attendant oxygen module test light is out, and all lights tested good, a valid oxygen system test has been accomplished for position 1.

(h.1) Close CB J16 and CB J18.

(i) Hold LATCH POWER switch in RELAY 1 position.

a) Verify that LATCH POWER light comes on.

(j) Release switch.

a) Verify that LATCH POWER light goes off.

(k) Hold LATCH POWER switch in RELAY 2 position.

a) Verify that LATCH POWER light comes on.

(l) Release switch.

a) Verify that LATCH POWER light goes off.

(m) Hold OXYGEN POWER switch in RELAY 1 position.

a) Verify that OXYGEN POWER light comes on.

(n) Release switch.

a) Verify that OXYGEN POWER light goes off.

(o) Hold OXYGEN POWER switch in RELAY 2 position.

a) Verify that OXYGEN POWER light comes on.

(p) Release switch.

a) Verify that OXYGEN POWER light goes off.

(q) Open CB's J16 and J18 on CB1 panel.

(r) Place SYSTEM TEST switch in NOR position.

(s) Place PATH SELECT switch in position 2.

(t) On PASSENGER OXYGEN controller, raise guard on SYSTEM TEST switch and place switch to TEST position.

1) After approximately 15 seconds, verify that all passenger read lights, lavatory and attendant oxygen module lights are off.

NOTE: Verify that sequence timer switch is not cycling. Sequence timer is located above ceiling, forward of right galley lift, and can be heard when standing in that location. If timer cycles continuously, place SYSTEM TEST switch in NOR position and replace timer (Ref. 35-21-07). The oxygen initiator sequence timer switch cycles for 15 seconds. Do not change position of SYSTEM TEST switch or PATH SELECT switch except at end of cycle (after timer switch as stopped cycling) unless switch cycles continuously.

2) An illuminated light indicates location and type of fault (Ref. Table 501).

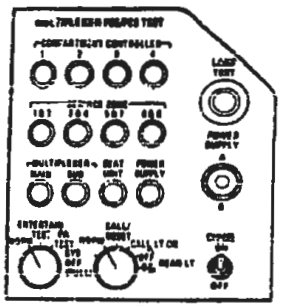
3) If every PSM reading light and lavatory/attendant oxygen module test light is out, and all lights tested good, a valid oxygen system test has been accomplished for position 2.

(u) Place SYSTEM TEST switch in NOR position at completion of test.

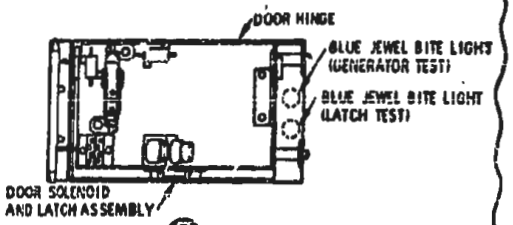
CR C (v) At Multiplexer PSS/PES TEST panel, turn the service selector switch to READ LT-NORM position.

C C (10) Slide PASSENGER OXYGEN controller chassis into place in rack and secure.

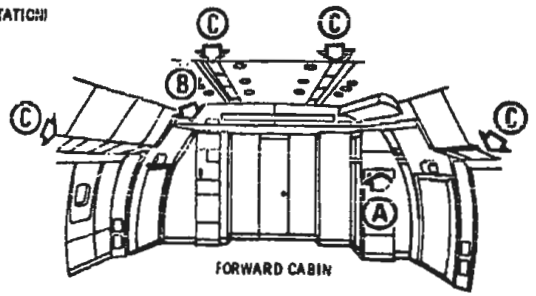
C (11) Turn off electrical power (Ref. 24-00-00).



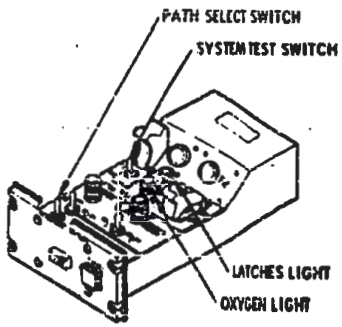
Ⓐ
MULTIPLEX TEST PANEL
(RIGHT FORWARD ATTENDANT STATION)



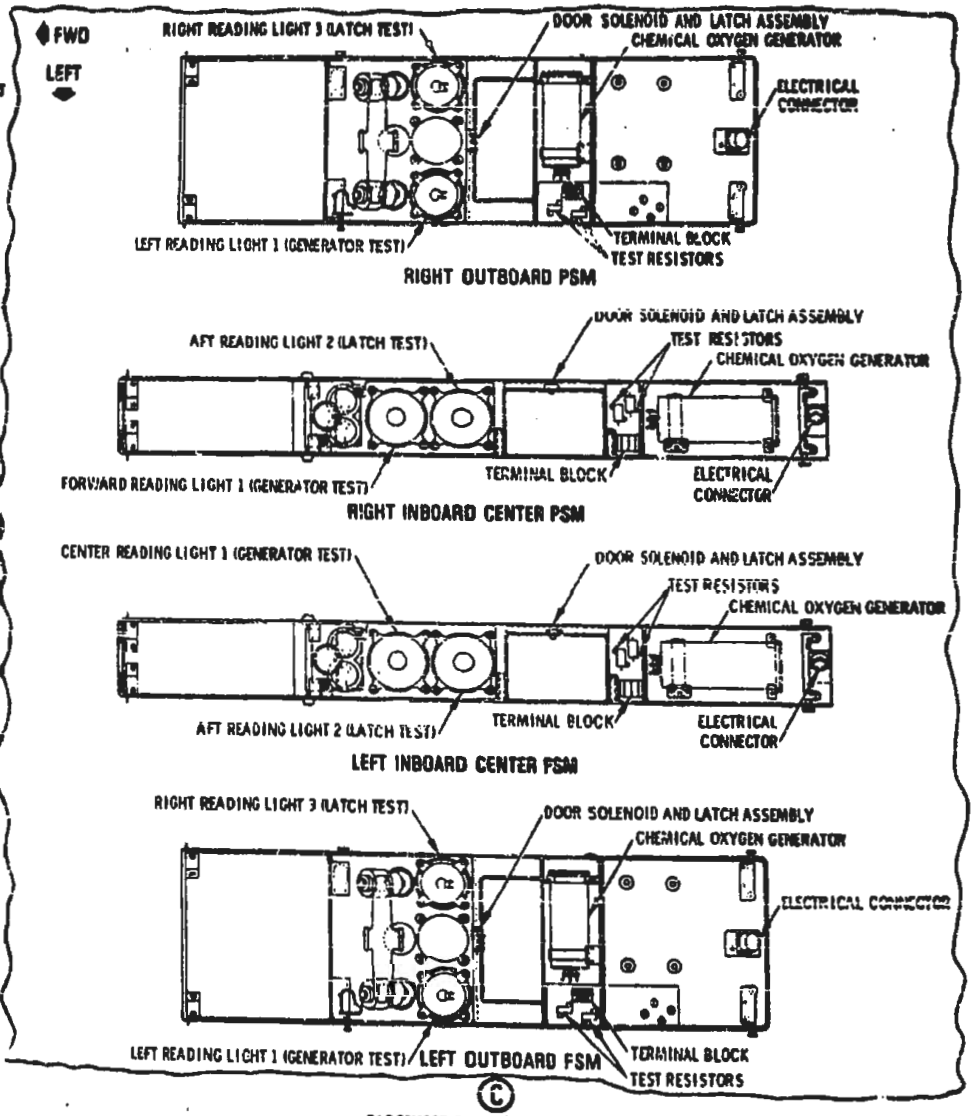
Ⓑ
TYPICAL LAVATORY/ATTENDANT TYPE OXYGEN MODULE (LOOKING DOWN)



FORWARD CABIN



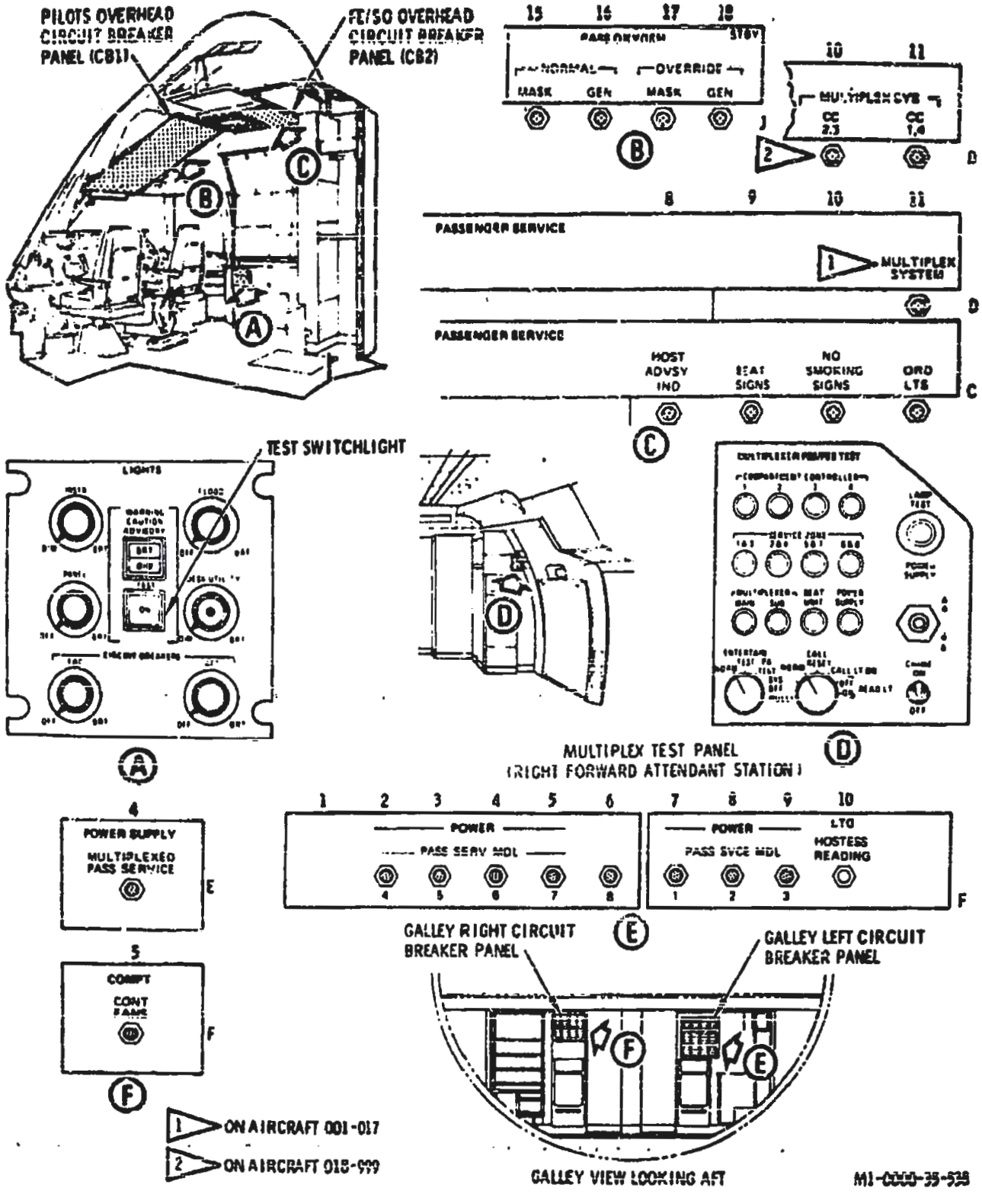
PASSENGER OXYGEN CONTROLLER
(FE/SO PANEL)



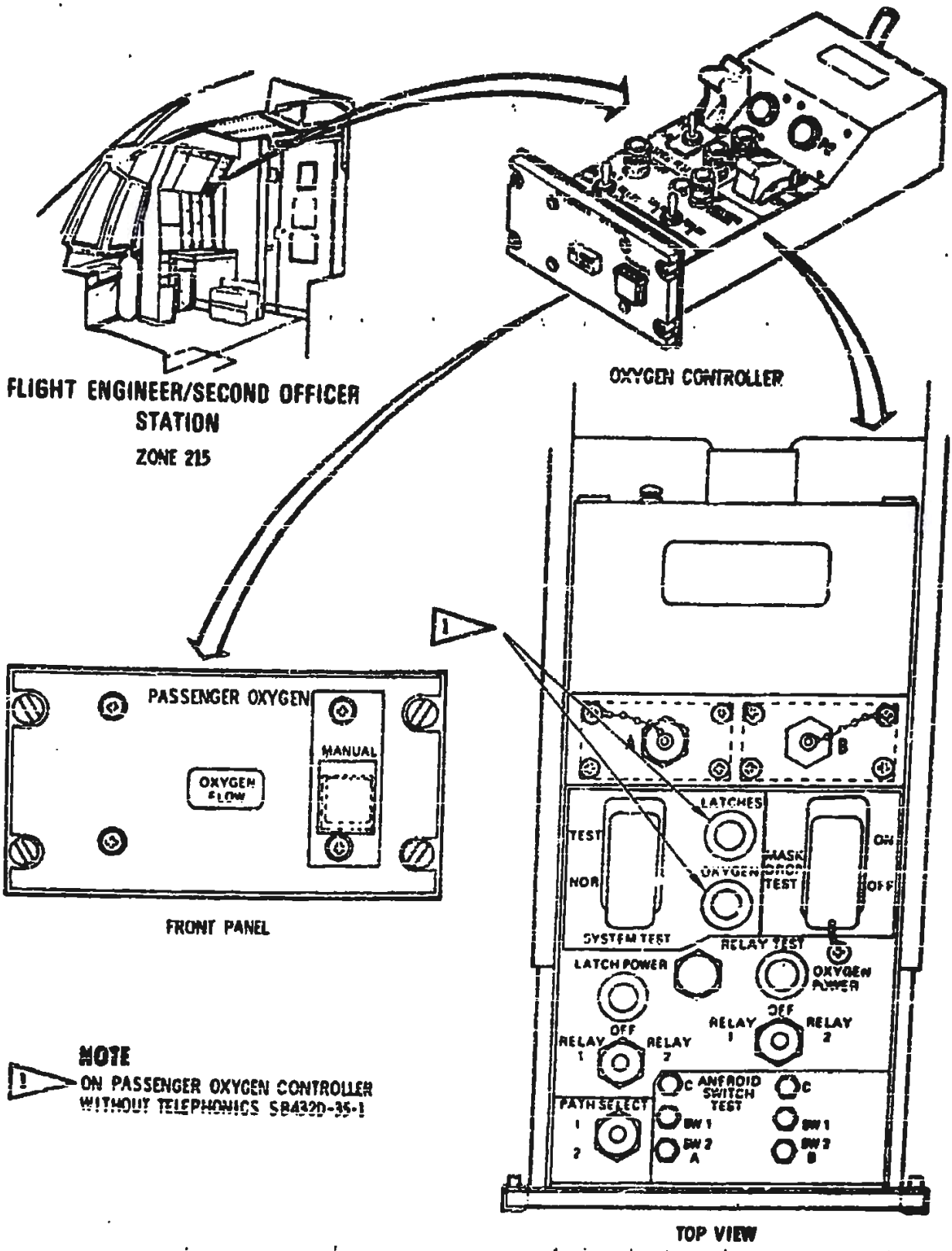
Ⓒ
PASSENGER CABIN (LOOKING DOWN)

M1-0000-35-037

Passenger Oxygen System Continuity Test Indications
Figure 501



Passenger Oxygen System Test Circuit Breakers and Test Panels
Figure 502



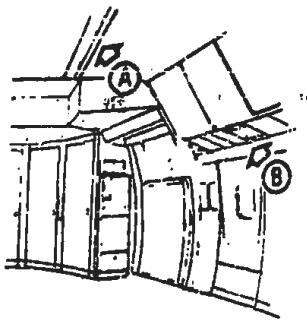
NOTE

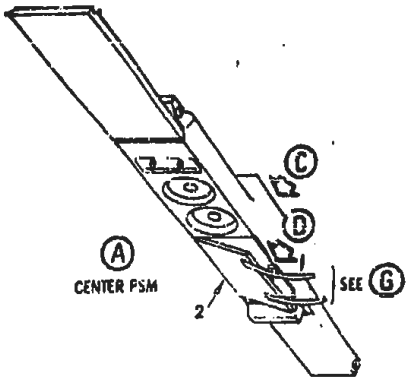
ON PASSENGER OXYGEN CONTROLLER WITHOUT TELEPHONICS SB432D-35-1

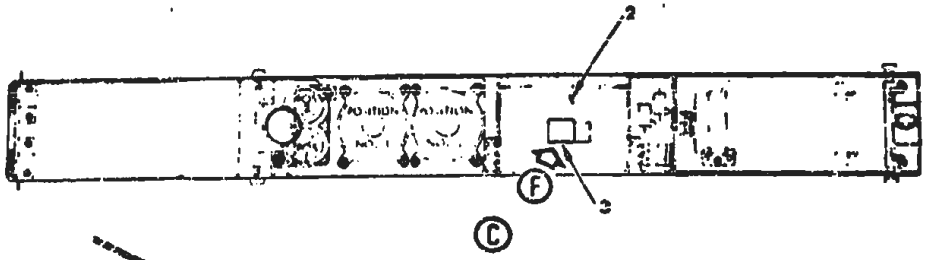
M1-0005-35-0

C C Passenger Oxygen Controller
Figure 503

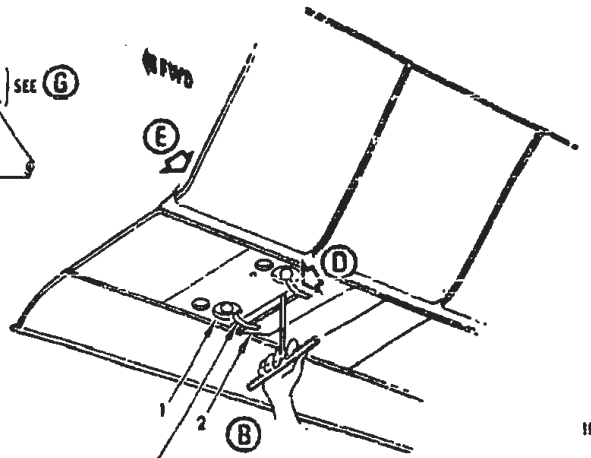
R EFFECTIVITY: ALL
R
001B



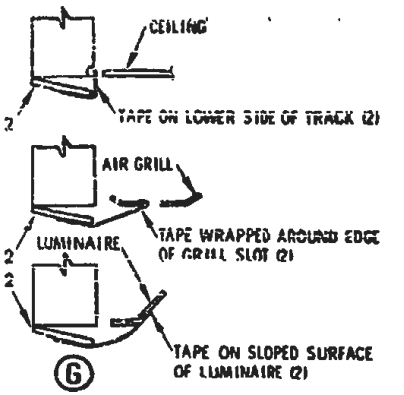




1 READING LIGHT
2 OXYGEN MASK COMPARTMENT DOOR
3 DECAL
4 MAGNETIC LATCH
5 OXYGEN MASK COMPARTMENT LATCHING TOOL (AIRCRAFT 001-031)
6 OXYGEN MASK COMPARTMENT LATCH RELEASE TOOL (AIRCRAFT 032-999)



TAPE WRAPPED INTO READING LIGHT OPENING (2) (AIRCRAFT 001-033 WITHOUT SB 35-033)



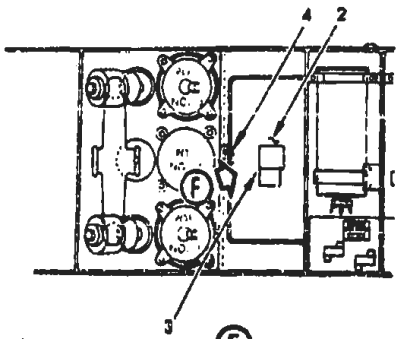
INSTALLATION OF TAPE FOR PASSENGER OXYGEN MASK DROP TEST (CENTER PSM) (AIRCRAFT 001-033 WITHOUT SB 35-033)

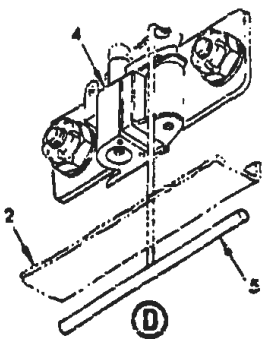
DOOR CLOSURE SEQUENCE

1 LATCH SHOE MUST CONTACT BOTH MAGNET AND COIL.
2 ROTATE DOOR TO NEAR CLOSED POSITION
3 DEPRESS HINGES TILL ENGAGED.
4 PRESS STRIKER INTO LATCH UNTIL CLICK SIGNALS ENGAGEMENT.

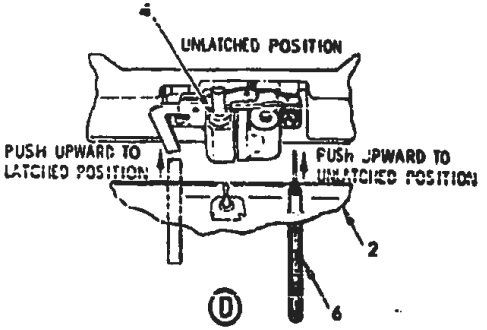
CAUTION
DO NOT REPACK DEPLOYED MASKS REPLACE WITH A SERVICEABLE RACK PER WM 35-21-08, -09, OR -10

F
DECAL





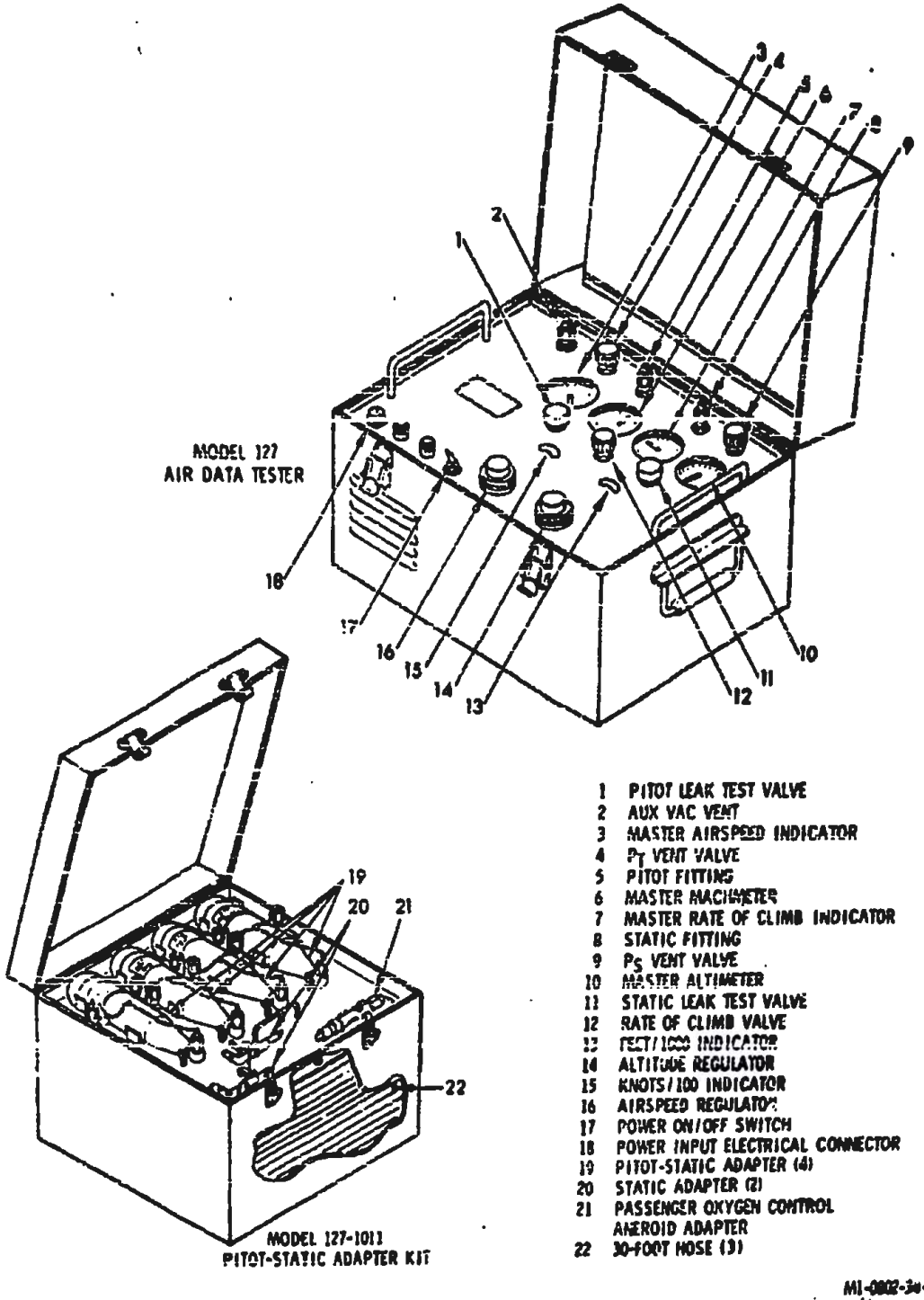
MAGNETIC LATCH (ON AIRCRAFT 001-031)



MAGNETIC LATCH (ON AIRCRAFT 032-999)

M1-0001-35-539

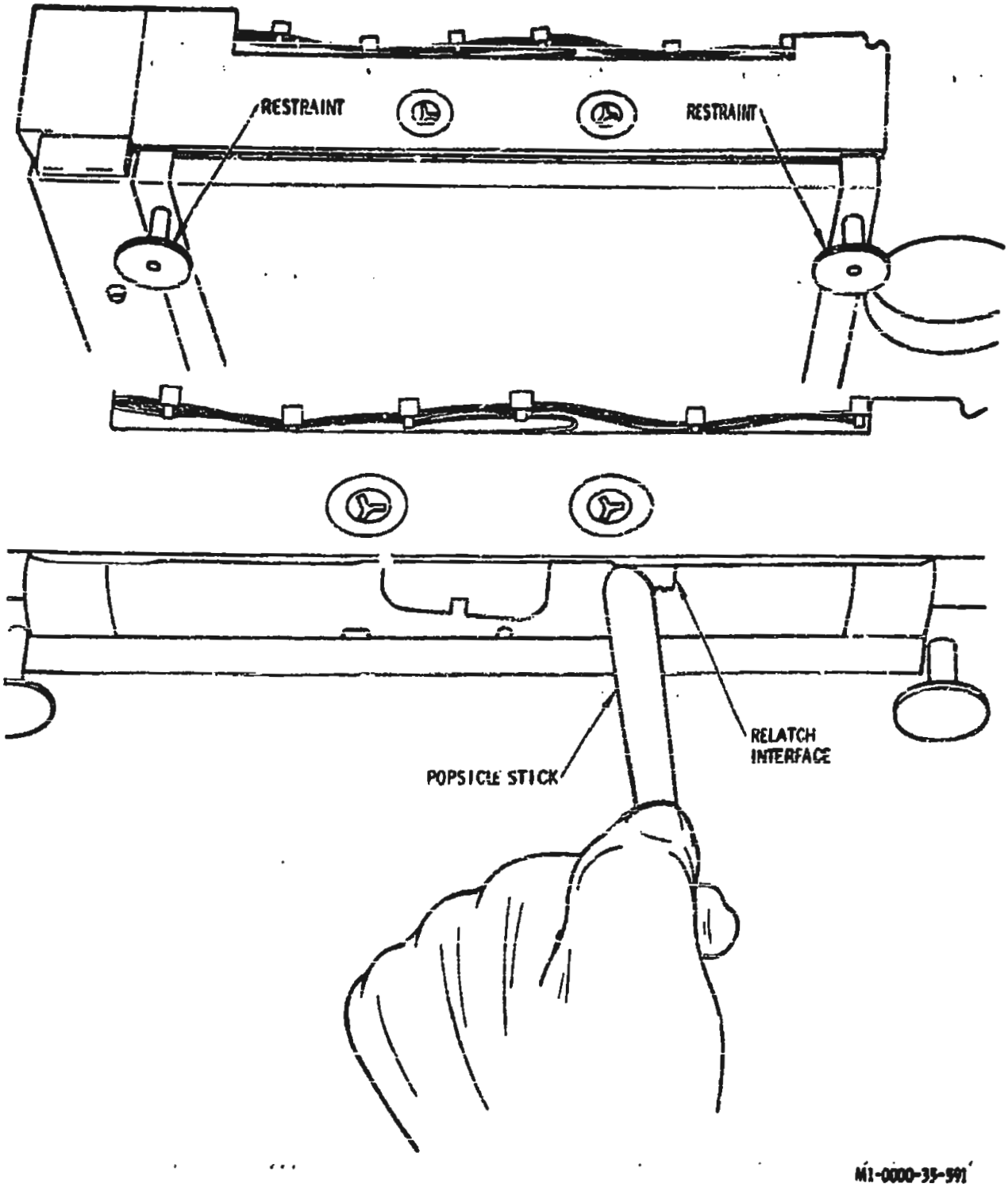
Passenger Oxygen Mask Compartment Door Latching
Figure 504



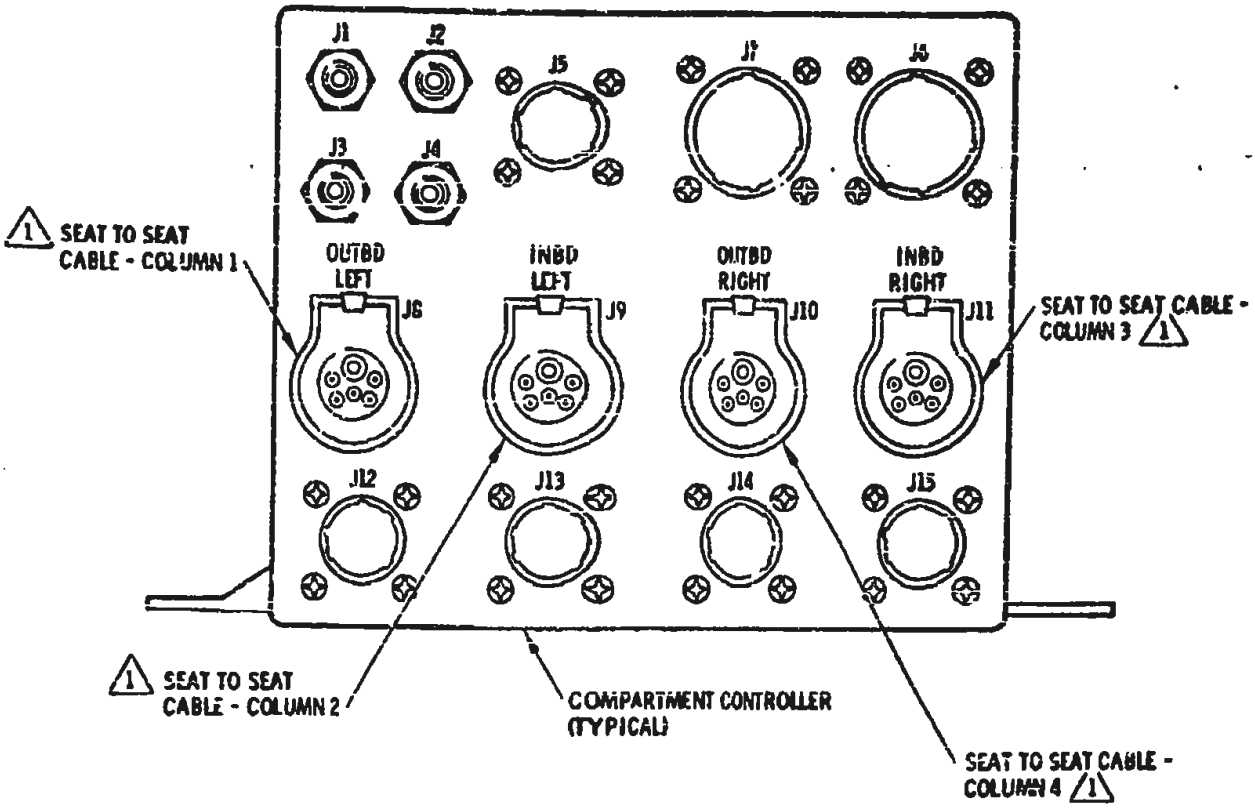
1 PITOT LEAK TEST VALVE
2 AUX VAC VENT
3 MASTER AIRSPEED INDICATOR
4 P_T VENT VALVE
5 PITOT FITTING
6 MASTER MACHMETER
7 MASTER RATE OF CLIMB INDICATOR
8 STATIC FITTING
9 P_S VENT VALVE
10 MASTER ALTIMETER
11 STATIC LEAK TEST VALVE
12 RATE OF CLIMB VALVE
13 TEST/1000 INDICATOR
14 ALTITUDE REGULATOR
15 KNOTS/100 INDICATOR
16 AIRSPEED REGULATOR
17 POWER ON/OFF SWITCH
18 POWER INPUT ELECTRICAL CONNECTOR
19 PITOT-STATIC ADAPTER (4)
20 STATIC ADAPTER (2)
21 PASSENGER OXYGEN CONTROL ANEROID ADAPTER
22 30-FOOT HOSE (3)

MI-0802-34-095

Air Data Tester
Figure 505



Restraint Installation And Door Latch Reset - Plug Type
Figure 506

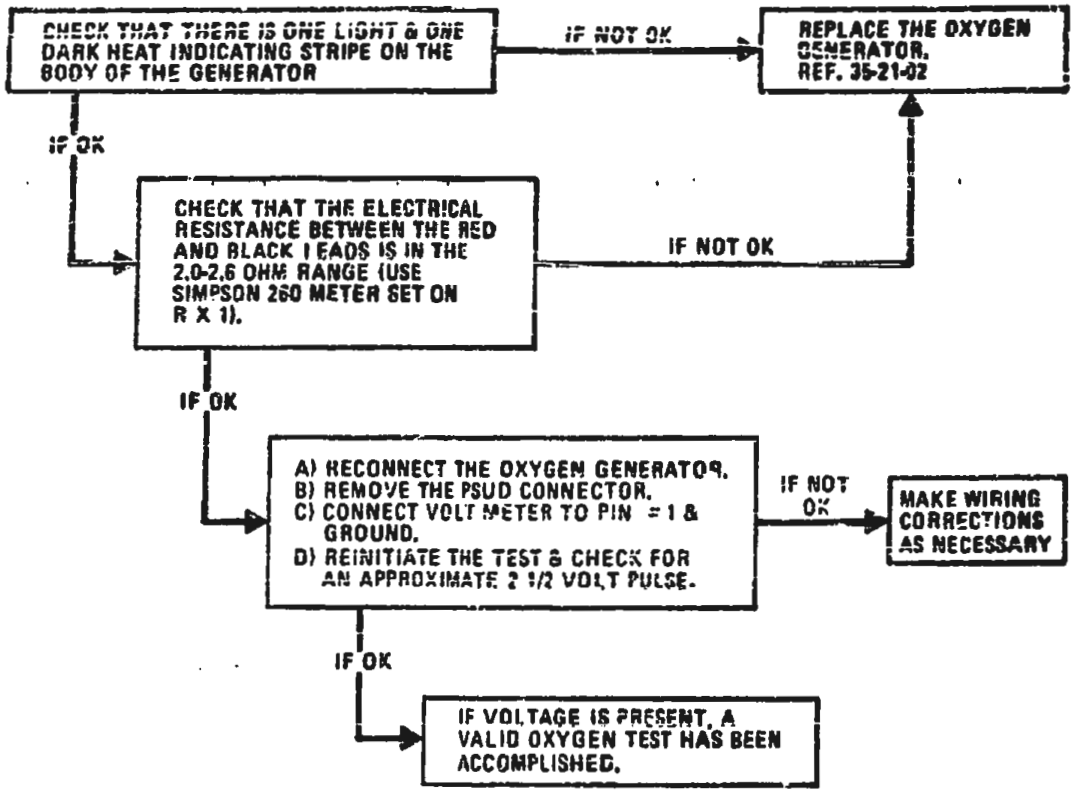


SEAT TO SEAT CABLE CONNECTORS

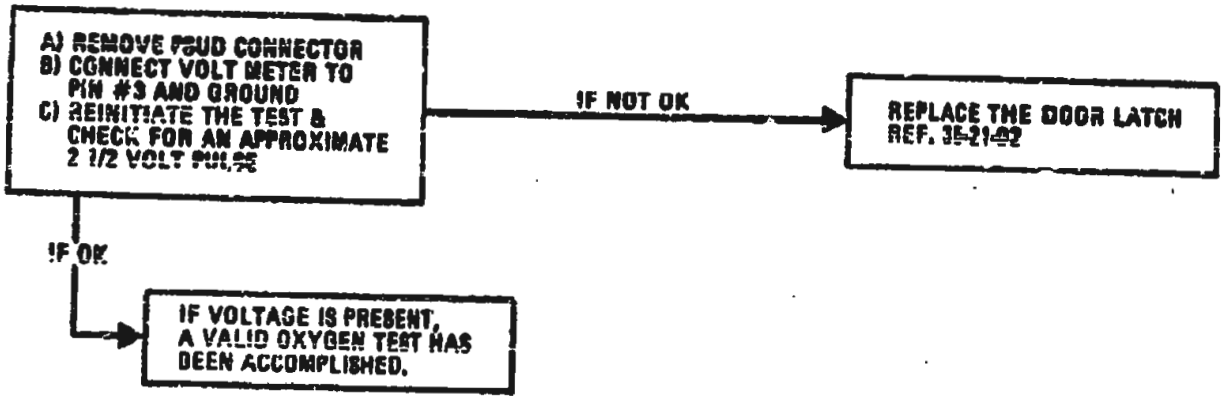
1 **NOTE**
IF CABLE IS NOT IDENTIFIED, TAG WITH APPLICABLE CONNECTOR (J) NUMBER BEFORE DISCONNECTING FROM PANEL

MI-0000-35-635

Seat-to-Seat Cable Connectors
Figure 507


CHECK THAT THERE IS ONE LIGHT & ONE DARK HEAT INDICATING STRIPE ON THE BODY OF THE GENERATOR
IF NOT OK
REPLACE THE OXYGEN GENERATOR. REF. 35-21-02
IF OK
CHECK THAT THE ELECTRICAL RESISTANCE BETWEEN THE RED AND BLACK LEADS IS IN THE 2.0-2.6 OHM RANGE (USE SIMPSON 260 METER SET ON R X 1).
IF NOT OK
IF OK
A) RECONNECT THE OXYGEN GENERATOR.
B) REMOVE THE PSUD CONNECTOR.
C) CONNECT VOLT METER TO PIN #1 & GROUND.
D) REINITIATE THE TEST & CHECK FOR AN APPROXIMATE 2 1/2 VOLT PULSE.
IF NOT OK
MAKE WIRING CORRECTIONS AS NECESSARY
IF OK
IF VOLTAGE IS PRESENT, A VALID OXYGEN TEST HAS BEEN ACCOMPLISHED.

M1-0000-35-812


A) REMOVE P9UD CONNECTOR
B) CONNECT VOLT METER TO PIN #3 AND GROUND
C) REINITIATE THE TEST & CHECK FOR AN APPROXIMATE 2 1/2 VOLT PULSE
IF NOT OK
REPLACE THE DOOR LATCH REF. 35-21-02
IF OK
IF VOLTAGE IS PRESENT, A VALID OXYGEN TEST HAS BEEN ACCOMPLISHED.

M1-0000-35-813

Passenger Oxygen System Test
Table 501

	LOCATION	CONDITION	ACTION
C	Outboard PSM	Left light on	See Chart 502
C		Right light on	See Chart 503
C C	Inboard PSM	Forward light(s) on	See Chart 503
C		Aft light on	See Chart 502
C C C C	Lavatory or attendant oxygen module	Light nearest door hinge on	See Chart 502
C C		Light nearest door latch on	See Chart 503

B. Center and Outboard Passenger Service Module (PSM) Mask Door Drop Test.

CAUTION: THE MAXIMUM MASK DOOR DROP, SHALL NOT EXCEED 9/16 INCH FOR PSM'S AND CABIN ATTENDANT MODULES. USE PROPER TOOLING FOR CLOSING MASK DOORS.

NOTE: To perform a complete passenger oxygen mask drop test, inspection of the mask stowage racks (Ref. 35-21-08 and 35-21-09) must be accomplished.

(1) Perform Passenger Oxygen System BITE test outlined in Step 4A to ensure electrical system continuity

(2) On aircraft 001-033 without SB35-033, apply pressure sensitive tape to allow doors to open slightly (approximately one-half inch) during test. Use two strips of one inch wide tape at each PSM(Ref. Fig. 504).

C C C C NOTE: On aircraft 001-033 without SB35-033 suitable bungee cords or clips may also be used. The cords or clips must allow door to open slightly.

(2) On aircraft 001-033 with SB35-033 and 034-999, insert plug type door restraint to allow doors to open slightly (not to exceed 9/16 inch) during door drop test (Ref. Fig. 506).

CAUTION: DO NOT OPERATE GUARDED MANUAL SWITCH ON FRONT PANEL.

(3) Verify that guard on MANUAL switch on PASSENGER OXYGEN Controller front panel is down and safety wired with breakaway lockwire.

(4) Release PASSENGER OXYGEN Controller and slide chassis out of rack enough to gain access to test panel on top of chassis (Ref. Fig. 501).

(a) Remove safety wire and raise guard on MASK DROP TEST switch on PASSENGER OXYGEN controller test panel.

(5) Place MASK DROP TEST switch in ON position.

WARNING: DO NOT APPLY ANY TYPE OF LUBRICANT TO DOOR LATCH MECHANISM.

C (6) Verify that each mask compartment door has been
C released and is being held in place by the related door
C restraint.

NOTE: Clean door latch on any door that failed to open. Latch may be cleaned using Isopropyl Alcohol (FED SPEC TP-1-735 or equivalent) and dried with a clean lint-free cloth. Repeat drop test on failed doors after cleaning.

(7) Place MASK DROP TEST switch in OFF position.

(8) Move switchguard down to cover switch and safety wire in place.

CAUTION: IF OXYGEN MASKS ARE ACCIDENTALLY DROPPED REPLACE OXYGEN MASK STOWAGE RACK IN PASSENGER SERVICE MODULE (REF. 35-21-08, 35-21-09) AS APPLICABLE; OR REPACK AS INSTRUCTED IN 35-21-03.

CR CAUTION: DO NOT ATTEMPT TO WRAP MASKS OR LOAD RACKS.
CR HANDLE MASK/RACK ASSEMBLIES CAREFULLY. THEY ARE
CR FRAGILE ITEMS.

(9) Reset each door latch in latched position as follows:

(a) On aircraft 001-031, allow door to open only enough to insert latching tool(Ref. Fig. 504). Insert tool adjacent to coil, do not disturb mask package. Hook tool end over latch lever and pull lever down so that shoe contacts magnet and coil.

(a) On aircraft 032-999, insert a thin flat-bladed tool (popsicle stick or six-inch rule) and push up on door latch to reset shoe against magnet(Ref. Fig. 506).

(b) Remove tool.

(c) Press on hinge side of door to engage hinges.

NOTE: To free up sticky door hinge mechanism, apply Lubricant Flake, Non-staining (Ref. EPS 34.1510). Prior to application of lubricant, clean components with Aliphatic Naphtha (Ref. Fed. Spec. TT-N-95) or Isopropyl Alcohol (Ref. Fed, Spec. TP-1-735) and allow to dry.

(d) Push door closed until distinct click is heard.

C (e) Remove the related door restraint device.

C (f) Repeat steps 4A(10) through 4A(20).

C. Passenger Oxygen Controller Aneroid Switch Functional Test

C NOTE: Engineering recommends that the oxygen control panel
C be disconnected from the aircraft when checking the
C aneroid switch and manual switch.

(1) Turn on electrical power (Ref. 24-00-00).

CAUTION: IF CIRCUIT BREAKERS LISTED IN STEP 4C(2) ARE NOT OPEN, PERFORMING THIS PROCEDURE WILL ACTIVATE THE OXYGEN SYSTEM.

C (2) On pilots overhead circuit breaker panel CB1, zone 210,
C open and tag circuit breakers PASS. OXYGEN NORMAL MASK
C (J15) and GEN (J16) and PASS. OXYGEN OVERRIDE MASK
C (J17) and GEN (J18).

(3) Release PASSENGER OXYGEN controller panel and slide chassis out of rack enough to gain access to test panel
C on top of chassis (Ref. Fig. 501). Disconnect
C electrical connector J1.

C NOTE: Aneroid switch may be removed from the aircraft
C for this functional test at maintenance's
C option.

NOTE: The PANEL light on top of chassis is for panel illumination and is energized from the 5V ac

lighting bus. The light is not required for the test.

(4) Set ohmmeter resistance multiplier selector to X100.

(5) Connect ohmmeter leads to P1 jacks C and S1 on controller test panel.

(6) Remove vented dust covers from aneroid switch ports P1 and P2 on controller.

(7) Connect passenger oxygen controller aneroid adapter to port P1 on controller.

(8) Connect adapter kit hose between port P1 on controller and STATIC fitting on air data tester (Ref. Fig. 505).

(9) Operate tester to increase altitude of aneroid switch.

(10) Monitor ohmmeter and tester to determine altitude that switch actuates. Ohmmeter needle moves from no continuity (infinite resistance) to full continuity (no resistance) when aneroid switch actuates. Switch should actuate between 12,700 and 13,900 feet.

(11) Operate tester to decrease altitude of aneroid switch.

(12) Monitor ohmmeter to verify that switch actuates to open position. Ohmmeter needle moves from full continuity (no resistance) to no continuity (infinite resistance) when aneroid switch actuates.

(13) Place ohmmeter leads in P1 jacks C and S2.

(14) Repeat Steps 4C(9) through 4C(12).

(15) Disconnect aneroid adapter and hose from aneroid port P1 and connect to port P2.

(16) Place ohmmeter leads in P2 jacks C and S1.

(17) Repeat Steps 4C(9) through 4C(14) for S1 and S2 switches.

C (18) Reduce pressure to zero and disconnect tester and
C adapters.

(19) Place ohmmeter leads in P2 jacks S1 and S2.

C (20) DELETED.

(21) Depress MANUAL switch.

(22) Verify that ohmmeter indicates full continuity (no resistance).

(23) Release MANUAL switch.

C (24) DELETED.

C (25) DELETED.

(26) Remove aneroid adapter from controller.

(27) Replace vented dust covers on aneroid switch ports. Do not tighten covers.

C (28) Reconnect J1 connector. Slide PASSENGER OXYGEN chassis
C into place and secure.

C (29) Close J15 and J17 circuit breakers previously opened in
C Step 4C(2). (CB's J16 and J18 to be left pulled).

(30) Turn off electrical power (Ref. 24-00-00).

D. Lavatory and Cabin Attendant Mask Door Drop Test

CR CAUTION: THE MAXIMUM MASK DOOR DROP, SHALL NOT EXCEED 9/16 INCH FOR LAVATORY AND CABIN ATTENDANT MODULES.

NOTE: To perform a complete passenger oxygen mask drop test, inspection of the mask stowage racks (Ref. 35-21-10) and Passenger Oxygen System BITE Test outlined in Paragraph 4A of this procedure must be accomplished.

(1) Open access door next to oxygen module mask door.

(2) Install metal clip door restraint to allow door to open slightly (not to exceed 1/4 inch) during door drop test.

(3) Close access door, to hold clip in place.

(4) Perform Passenger Oxygen System BITE Test outlined in Paragraph 4A to ensure electrical system continuity.

(5) Remove safety wire and raise guard on MASK DROP TEST switch on PASSENGER OXYGEN controller test panel.

CAUTION: DO NOT OPERATE GUARDED MANUAL SWITCH ON FRONT PANEL.

(6) Place MASK DROP TEST switch in ON position.

(7) Verify that each mask compartment door has been released and is being held in place by metal clip door restraint.

NOTE: Clean latch on any door that failed to open. Repeat drop test on failed doors after cleaning.

(8) Place MASK DROP TEST switch in OFF position.

(9) Move switchguard down to cover switch and safety wire in place.

(10) Place each door in latched position as follows:

WARNING: DO NOT APPLY ANY TYPE OF LUBRICANT TO DOOR LATCH MECHANISM. LATCH MAY BE CLEANED USING ISOPROPYL ALCOHOL (FED SPEC TP-1-735 OR EQUIVALENT) AND DRIED WITH A CLEAN LINT-FREE CLOTH.

CAUTION: IF OXYGEN MASKS ARE ACCIDENTALLY DROPPED REPLACE OXYGEN MASK RACK ASSEMBLY (REF. 35-21-10) OR REPACK AS INSTRUCTED IN 35-21-03.

(11) Press on hinge side of door to engage hinges.

(12) Push door closed until distinct click is heard.

(13) Open access door.

(14) Remove metal clip door restraint and save for future use.

(15) Close access door.

PASSENGER OXYGEN SYSTEM - OXYGEN DOOR LATCH AND HINGE ASSEMBLY CLEANING AND PAINTING

1. General

This procedure outlines the cleaning of the oxygen door latch and cleaning/lubrication procedure for the oxygen door hinges.

WARNING: THE OXYGEN DOOR LATCH REQUIRES CLEANING ONLY AND NO LUBRICATION.

The oxygen door drop hinge assemblies on the passenger service modules (PSM) and lavatory/cabin attendant oxygen modules are completely different in design. Cleaning and lubrication procedures are applicable to all.

2. Equipment and Materials

A. Oxygen Door Latch Cleaning

Isopropyl Alcohol, Fed Spec TP-1-735, or equivalent

Clean, Lint-Free Cloth

Flashlight

B. Oxygen Door Hinge Cleaning and Lubrication

Isopropyl Alcohol, Fed Spec TP-1-735, or equivalent

GRAFIZE Lubricant, Reardon Products, Roanoke, Illinois (One Pound Can With Plastic Applicator)

Clean, Lint-Free Cloth

Flashlight

3. Maintenance Practices

A. Oxygen Door Latch Cleaning

R (1) Visually check latching mechanism on PSM proper and
R oxygen door for accumulated dust balls and dirt. Remove as required.

R WARNING: DO NOT LUBRICATE LATCHING MECHANISM.

(2) Using isopropyl alcohol and a clean lint-free cloth, remove residual deposits of dirt, nicotine tar, etc. from latching mechanism. Wipe dry with a separate clean lint-free cloth.

B. Oxygen Door Hinge Cleaning/Lubrication

(1) Visually check door hinges for accumulated dust balls and dirt. Remove as required.

(2) Using isopropyl alcohol and a clean lint-free cloth, remove residual deposits of dirt, nicotine tar, etc. from hinge assembly. Exercise door during cleaning to aid in distributing alcohol throughout the drop hinge assembly.

NOTE: Drop hinge assembly on the PSM oxygen door consists mainly of the drop hinge, torsion spring, and hinge pin. Lavatory and cabin attendant oxygen door drop hinge assembly consists of the slotted drop hinge, leaf spring, drop hinge spring, rivet and roller, door retaining hook, hinge pin, and shaft.

(3) Using a separate clean lint-free cloth, wipe off all excess alcohol.

CAUTION: ALLOW ADEQUATE TIME FOR ALCOHOL TO COMPLETELY DISSIPATE PRIOR TO APPLYING LUBRICANT.

(4) Apply GRAFIZE lubricant to all parts of hinge assembly. Exercise door to aid in distributing the lubricant. Wipe off excess lubricant using a clean lint-free cloth.

PASSENGER OXYGEN CONTROLLER - MAINTENANCE PRACTICES

1. General

This procedure outlines the steps to be performed to confirm operational status of the two dual-aneroid switches and the MANUAL deployment switch contact in the passenger oxygen controller.

2. Equipment and Materials

Air Data Tester, Milhard Engineering Co., PN 127, or equivalent

Pitot - Static Adapter Kit, Milhard Engineering Co., PN 127-1011, or equivalent

Ohmmeter, Simpson PN 260, or equivalent

3. Referenced Procedures

	21-25-00	Electronic and Electrical Service Centers Exhaust Air Systems - Adjustment and Test
R	24-00-00	Electrical Power - Maintenance Practices
	35-21-00	Passenger Oxygen System - Fault Isolation
	35-21-01	Passenger Oxygen Controller - Removal and Installation

4. Maintenance Practices

A. Passenger Oxygen Controller Dual-Aneroid Switch Operational Test.

(1) Turn on electrical power and cooling air (Ref. 24-00-00 and 21-25-00).

R CAUTION: CIRCUIT BREAKERS LISTED IN THE FOLLOWING STEP (2) MUST BE OPEN AND TAGGED PRIOR TO PROCEEDING WITH THIS TEST. FAILURE TO COMPLY WITH THIS CAUTION WILL CAUSE AUTOMATIC DEPLOYMENT OF PASSENGER OXYGEN MASKS AND OXYGEN GENERATOR ACTIVATION.

(2) On pilots overhead circuit breaker panel, C91, open and tag the following circuit breakers:

PASS OXYGEN-NORMAL-MASK (J15)

PASS OXYGEN-NORMAL-GEN (J16)

PASS OXYGEN-OVERRIDE-MASK (J17)

PASS OXYGEN-OVERRIDE-GEN (J18)

(3) Release PASSENGER OXYGEN controller panel and slide chassis out of rack to gain access to test panel on top of chassis (Ref. 35-21-01).

NOTE: The PANEL light on top of the chassis is for panel illumination and is energized from the 5V ac lighting bus. The light is not required in this procedure.

(4) Set ohmmeter resistance multiplier selector to X100.

(5) On PASSENGER OXYGEN Controller Panel:

(a) Connect ohmmeter leads to P1 jacks C and S1

(b) Remove vented dust covers from aneroid switch ports P1 and P2

(c) Connect aneroid adapter to port P1

(d) Connect adapter kit hose between port P1 and STATIC fitting on air data tester.

CR (e) Set tester altimeter to 29.92.

(6) Operate tester to increase altitude of aneroid switch.

(7) Monitor ohmmeter and tester to determine altitude that switch actuates. Ohmmeter needle moves from no continuity (infinite resistance) to full continuity (no resistance) when aneroid switch actuates. Switch should actuate between 12,700 and 13,900 feet.

(8) Operate tester to decrease altitude of aneroid switch.

(9) Monitor ohmmeter to verify that switch actuates to open position. Ohmmeter needle moves from full continuity (no resistance) to no continuity (infinite resistance) when aneroid switch actuates.

(10) Place ohmmeter leads in P1 jacks C and S2.

(11) Repeat Steps (6) through (9).

(12) Vent system to ambient.

(13) Disconnect aneroid adapter and hose from aneroid port P1 and connect to port P2.

(14) Place ohmmeter leads in P2 jacks C and S1.

(15) Repeat Steps (6) through (9) for S1 and S2 switches.

(16) Vent system to ambient.

(17) Place tester power switch in OFF position and disconnect power cable from power source and tester.

(18) Disconnect Aneroid adapter and adapter kit hose from oxygen controller panel.

(19) Replace vented dust covers on Aneroid switch ports. Finger tighten only.

(20) If testing of oxygen control MANUAL deploy switch is NOT to be performed:

(a) Slide PASSENGER OXYGEN controller chassis into the FE/SO panel and secure (Ref. 35-21-01).

(b) Remove tags and close circuit breakers previously opened in Step 4A(2).

(c) Turn off electrical power and cooling air (Ref. 24-00-00 and 21-25-00) if not required for other checkouts.

NOTE: Paragraph 4B checks the operation of the MANUAL oxygen deploy switch on the PASSENGER OXYGEN controller panel. Steps 4B(1) through 4B(3) are not required if the MANUAL switch test is an immediate continuation after the dual-aneroid test in Paragraph 4A.

B. Passenger Oxygen Controller MANUAL Deploy Switch Operational Test

(1) Turn on electrical power and cooling air (Ref. 24-00-00 and 21-25-00).

CAUTION: CIRCUIT BREAKERS LISTED IN THE FOLLOWING STEP (2) MUST BE OPEN AND TAGGED PRIOR TO PROCEEDING WITH THIS TEST. FAILURE TO COMPLY WITH THIS CAUTION WILL CAUSE AUTOMATIC DEPLOYMENT OF PASSENGER OXYGEN MASKS AND OXYGEN GENERATOR ACTIVATION.

(2) On pilots overhead circuit breaker panel, CB1, open and tag the following circuit breakers:

PASS OXYGEN-NORMAL - MASK (J15)

PASS OXYGEN-NORMAL - GEN (J16)

PASS OXYGEN-OVERRIDE - MASK (J17)

PASS OXYGEN-OVERRIDE - GEN (J18)

(3) Release PASSENGER OXYGEN controller panel and slide chassis out of rack to gain access to chassis (Ref. 35-21-01).

NOTE: The panel light on top of the chassis is for panel illumination and is energized from the 5V ac lighting bus. The light is not required in this procedure.

(4) Place ohmmeter leads in P2 jacks S1 and S2.

(5) Lift switch guard on PASSENGER OXYGEN Controller MANUAL switch. Depress and hold the MANUAL switch and observe ohmmeter readout.

(6) Ohmmeter should reflect full continuity (no resistance) verifying proper operation of MANUAL switch contact.

R

(7) Release MANUAL switch and verify that ohmmeter reflects infinity (open circuit).

(8) Position guard over MANUAL switch.

(9) Disconnect ohmmeter leads from controller.

(10) Slide PASSENGER OXYGEN controller chassis into FE/SO panel and secure (Ref. 35-21-01).

(11) Remove tags and close circuit breakers previously opened (CB1 J15, J16, J17, and J18).

(12) Turn off electrical power and cooling air (Ref. 24-00-00 and 21-25-00) if not required for other checkouts.

(13) Install tapes or ropes to block access to affected seats. Install conspicuous signs (DO NOT OCCUPY, OXYGEN NOT AVAILABLE) indicating these seats are not to be occupied. Refer to Passenger Oxygen System - Fault Isolation (Ref 35-21-00) to correct faults within system.

PASSENGER OXYGEN CONTROLLER - REMOVAL AND INSTALLATION

1. Referenced Procedure

35-21-00 Passenger Oxygen System - Adjustment and Test

2. Removal/Installation

A. Removal

(1) On pilots overhead circuit breaker panel CB1, zone 210, open and tag the following PASS. OXYGEN circuit breakers:

NORMAL MASK (J15)

NORMAL GEN (J16)

OVERRIDE MASK (J17)

OVERRIDE GEN (J18)

On Flight Engineer/Second Officers overhead circuit breaker panel CB2, zone 215, open and tag circuit breakers IND LT - F/E PANEL - UPPER (J3).

On Flight Engineer/Second Officers aft circuit breaker panel CB3, zone 215, open and tag circuit breaker 5 VAC FLT ENGR PANEL LIGHTS - UPPER - NO. 3 (CC12).

(2) Release and slide PASSENGER OXYGEN controller out from Flight Engineer/Second Officers upper panel, zone 215, (Ref. Fig. 401).

(3) Disconnect electrical connector from rear of controller.

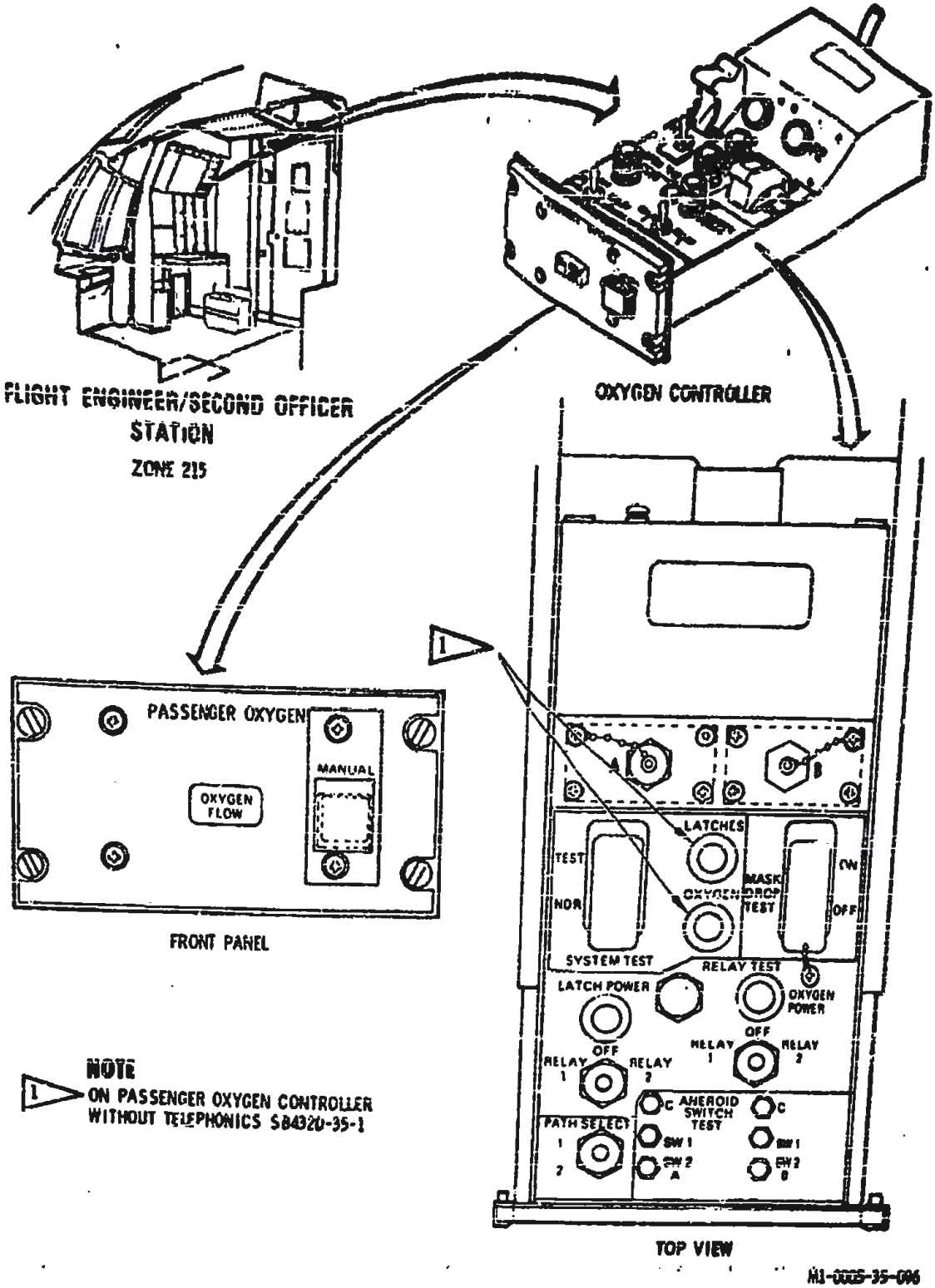
(4) Release controller chassis slides from panel chassis tracks and slide controller out of panel.

B. Installation

(1) Verify that circuit breakers opened in Step 2A(1) are open and tagged.

(2) Insert oxygen controller chassis into tracks and slide forward until latched.

(3) Connect electrical connector to rear of controller.



NOTE

1 ON PASSENGER OXYGEN CONTROLLER WITHOUT TELEPHONICS S84320-35-1

M1-0005-35-096

CR
CR

Passenger Oxygen Controller
Figure 401

(4) Insert and secure controller.

C CAUTION: THE MANUAL SWITCH ON THE PASSENGER OXYGEN
CR CONTROLLER FRONT PANEL IS NOT SAFETIED, THEREFORE
C EXTREME CARE MUST BE TAKEN NOT TO INADVERTENTLY
C PRESS THE SWITCH. IF THE SWITCH IS DEPRESSED, ALL
C PASSENGER OXYGEN GENERATORS WILL IGNITE AND THE
C OXYGEN MASKS WILL DROP. ONCE THE GENERATORS
C IGNITE, THERE IS NO WAY TO STOP THEM. IT COSTS
CR APPROXIMATELY 52,000 DOLLARS TO REPLACE THE OXYGEN
C MASKS AND ALL GENERATORS.

(5) Remove tags and close circuit breakers opened in Step 2A(1).

(6) Perform BITE test to verify operation of passenger oxygen system (Ref. 35-21-00).

CR 3. Switch Guard Replacement - Passenger Oxygen Controller.

CR A. The guard is attached to the controller light plate by two
CR screws. In the event the new guard becomes damaged, it may
CR be replaced separately without removing or disturbing the
CR controller.

CR CAUTION: IT IS MANDATORY TO OPEN THE FOLLOWING FOUR CIRCUIT
CR BREAKERS BEFORE REMOVING THE SWITCH GUARD.

CR (1) On Pilots overhead circuit breaker panel CB1, zone 210,
CR open and tag the following PASS OXYGEN circuit
CR breakers:

CR Normal Mask (J15)

CR Normal Gen (J16)

CR Override Mask (J17)

CR Override Gen (J18)

CR CAUTION: INADVERTENT OPERATION OF THE L-1011 PASSENGER
CR OXYGEN SYSTEM MAY BE EXTREMELY COSTLY AND PUT
CR AN AIRPLANE OUT OF SERVICE FOR TWO DAYS.

CR B. After switch guard replacement, assure that nothing is
CR bearing against the switch button before affected circuit
CR breakers are closed.

FIXED CHEMICAL OXYGEN GENERATOR - REMOVAL AND INSTALLATION

1. Equipment and Materials

Ohmmeter, Simpson PN 260, Series 4, or equivalent (Ohmmeter must be capable of measuring 2.0 to 2.6 ohms with current output limited to 120 MA maximum)

Wire insertion and removal tool (poke-home)

C (TWA Stk Nbr 47-2861)

Protective caps

Grounding wire, approximately 18 inches long, uninsulated alligator clips at each end

2. Referenced Procedure

25-22-02	Passenger Service Center Overhead Module - Removal and Installation
25-22-03	Passenger Service Outboard Overhead Module - Removal and Installation
35-21-00	Passenger Oxygen System - Fault Isolation
35-21-00	Passenger Oxygen System - Adjustment and Test

3. General

Chemical oxygen generators are installed in the following units:

Outboard Passenger Service Modules (PSM)

Center Passenger Service Modules (PSM)

Lavatory, Cabin Attendant and Food Service Attendant Oxygen Module Assemblies

R Removal and installation procedures for outboard oxygen
R generators are covered in Paragraphs 4A and 4B. Removal and
R installation procedures for center oxygen generators are covered
R in Paragraphs 4C and 4D. Removal and installation procedures
for Lavatory and Cabin Attendant oxygen generators are covered
R in Paragraphs 4E and 4F.

It is possible to initiate a chemical oxygen generator, if a specific combination of conditions exist. These conditions are:

Cool and very dry atmosphere

Source of static electricity buildup such as untreated nylon carpet

Generator case grounded

Statically charged personnel touching the red electrical lead

CAUTION: BEFORE HANDLING OXYGEN GENERATOR, VERIFY THAT PROTECTIVE CAPS ARE INSTALLED ON OUTLET PORTS. VERIFY THAT SAME TYPE PROTECTIVE CAP, AS USED ON OUTLET PORT, IS USED TO HOLD ELECTRICAL LEADS IN CONTACT WITH EACH OTHER. IF NECESSARY TO INSTALL CAP ON ELECTRICAL LEADS, HOLD WIRES BY INSULATION WHILE INSTALLING CAP. DO NOT TOUCH BARE WIRES OR TERMINALS.

C 3A. Approved Chemical Oxygen Generators - Passenger Oxygen System.

CR A. Figure 401 identifies the three chemical oxygen generators
C stocked by TWA for the L-1011 passenger oxygen system.

C B. Before installation, a generator must be checked for
C serviceability by assuring the following conditions:

C (1) Electrical resistance between red and black leads is in
C the 2.0 - 2.6 ohm range. (Use Simpson 260 meter set on
C Rx1).

C (2) There is one light and one dark heat indicating stripe
C on body of generator.

C (3) There are no significant dents in the stainless steel
C body of the generator. Dents or irregularities in the
C perforated heat shields are acceptable.

C (4) The electrical leads, terminals, insulation and lead
C feed-in bushing are visually okay.

C 3B. Disposition of Chemical Oxygen Generators with Expired Life
C Limit

C A. During Check C operations the life limit of L1011 passenger
CR chemical oxygen generators is checked per the appropriate
CR check C cards.

Oxygen Generator Life Limits
Table 401

TWA Stk Nbr	Mfg P/N	Type Gen	Life Limit (yrs after mfg date)
96-5030	801462-04	1 man	14 yrs.
96-5031	801462-05	2 man	14 yrs.
96-5032	801462-06	3 man	14 yrs.

B. Generators removed from an aircraft for any reason should be packaged according to instructions in the S-40 inquiry and shipped to the PSU shop, Drop 33A-1, MCI.

NOTE: Do not expend generators prior to shipping.

4. Removal/Installation

A. Removal from Outboard PSM

(1) On PASS. OXYGEN section of pilots overhead circuit breaker panel CB1, zone 210, open and tag following circuit breakers:

NORMAL MASK (J15)

NORMAL GEN (J16)

OVERRIDE MASK (J17)

OVERRIDE GEN (J18)

(2) On galley left circuit breaker panel, zone 131, open and tag circuit breakers:

POWER - PASS. SVCE MDL - 1, 2, 3, 4, 5, 6, 7, and 8

(3) Retract forward panel support latches on PSM, and hinge panel aft and downward (Ref. 25-22-03).

(4) Lower forward panel on adjacent aft PSM.

(5) Support forward end of module.

(6) Retract and lock module forward glide pin release knobs in detents.

(7) Release module forward shear pins from tracks and allow forward end of module to drop far enough for access to air hose. Detach PSM secondary support lanyard (if installed).

(8) Detach air hose.

(9) Allow forward end of module to drop to fully opened position, to allow access to oxygen generator.

(10) Using poke-home tool, disconnect expended oxygen generator electrical wires from oxygen generator terminal block.

CAUTION: IF GENERATOR HAS NOT BEEN EXPENDED, PERSONNEL MUST BLEED OFF ANY STATIC ELECTRICAL CHARGE. WITH PSM ELECTRIC CONNECTOR CONNECTED TO AIRCRAFT WIRING, TOUCH READING LIGHT CASE GROUND CONNECTION (TERMINAL NOT INSULATED WITH TERMINAL COVER).

(11) Disconnect unused generator as follows:

(a) With bare hand, connect one alligator clip of grounding wire to ground stud.

NOTE: Reading light case ground connection (terminal not insulated with terminal cover) may be used for ground stud if PSM electrical connector is connected to aircraft wiring.

(b) With bare hand, connect second clip to pin on red electrical lead at termminal C of terminal module.

(c) Use poke-home tool to remove lead.

(d) With bare hand, move clip to pin on black lead at terminal B.

(e) Use poke-home tool to remove lead.

(f) Use same type of protective caps as used on generator outlet parts to hold electrical leads in contact with each other.

CAUTION: HANDLE OXYGEN GENERATOR WITH CARE.

(12) Disconnect oxygen mask tubes from oxygen generator manifold, and install protective caps on outlet ports.

(13) Unlatch overcenter toggle oxygen generator clamp and slide the generator out.

B. Installation in Outboard PSM

CAUTION: BEFORE HANDLING OXYGEN GENERATOR, VERIFY THAT PROTECTIVE CAPS ARE INSTALLED ON OUTLET PORTS. VERIFY THAT SAME TYPE PROTECTIVE CAP, AS USED ON OUTLET PORT, IS USED TO HOLD ELECTRICAL LEADS IN CONTACT WITH EACH OTHER. IF NECESSARY TO INSTALL CAP ON ELECTRICAL LEADS, HOLD WIRES BY INSULATION WHILE INSTALLING CAP. DO NOT USE TAPE ON LEADS. DO NOT TOUCH BARE WIRES OR TERMINALS.

HANDLE OXYGEN GENERATOR WITH CARE. DO NOT DENT HEAT SHIELD.

(1) Verify that circuit breakers opened in Step 4A(1) and 4A(2) are open and tagged.

(2) Verify that paint stripe nearest manifold is white or light in color. Slide oxygen generator into its mounting position and secure with overcenter toggle clamp.

CAUTION: BEFORE REMOVING PROTECTIVE CAP FROM ELECTRICAL LEADS, VERIFY THAT PSM ELECTRICAL CONNECTOR IS CONNECTED TO AIRCRAFT WIRING AND BLEED OFF ANY STATIC ELECTRICAL CHANGE BY TOUCHING READING LIGHT CASE GROUND CONNECTION (TERMINAL NOT INSULATED WITH TERMINAL COVER).

(3) Remove protective cap from leads.

CAUTION: REFERENCED SIMPSON OHMMETER MUST BE SET ON RX1 RESISTANCE SCALE TO LIMIT OUTPUT TO 120 MA MAXIMUM CURRENT THROUGH OXYGEN GENERATOR INITIATOR. IF A DIFFERENT OHMMETER IS TO BE USED, VERIFY SCALE THAT WILL LIMIT OUTPUT CURRENT TO 120 MA MAXIMUM.

(4) Check continuity of initiator.

(a) Set ohmmeter resistance scale to RX1.

(b) Connect ohmmeter across generator leads.

(c) Verify that resistance is 2.0 to 2.6 ohms.

(5) Connect generator as follows:

(a) With bare hand, connect one alligator clip of grounding wire to ground stud.

NOTE: Reading light case ground connection (terminal not insulated with terminal

cover) may be used for ground stud if PSM electrical connector is connected to aircraft wiring.

(b) With bare hand, connect second clip to pin on black electrical lead.

(c) Use poke-home tool to insert black lead into terminal B of terminal module.

(d) With bare hand, move clip to pin on red electrical lead.

(e) Use poke-home tool to insert red lead into terminal C.

(6) Remove protective caps from outlet ports and connect oxygen mask tubes to oxygen generator manifold. Engagement of tubes over outlet ports to be 0.25 inch minimum.

(7) Close PSM far enough to connect air hose and PSM support lanyard (if installed), then close fully.

(8) Slide PSM backward to its correct position and slide shear pin into track.

(9) Close both PSM front panels.

(10) Remove tags and close circuit breakers opened in Steps 4A(1) and 4A(2).

(11) Perform BITE test to verify operation of passenger oxygen system (Ref. 35-21-00).

C. Removal from Center PSM

(1) On PASS. OXYGEN section of pilots overhead circuit breaker panel CB1, zone 210, open and tag following circuit breakers:

NORMAL MASK (J15)

NORMAL GEN (J16)

OVERRIDE MASK (J17)

OVERRIDE GEN (J18)

(2) On galley left circuit breaker panel, zone 131, open and tag circuit breakers:

(3) Retract forward panel support latches on PSM, and hinge panel aft and downward (Ref. 25-22-02).

(4) Lower forward panel on adjacent aft PSM.

(5) Support forward end of module.

(6) Retract and lock module forward glide pin release knobs in detents.

(7) Release module forward glide pins from tracks and allow forward end of module to drop far enough for access to air hose.

(8) Detach air hose.

(9) Allow forward end of module to drop to fully opened position to allow access to oxygen generator.

(10) Using poke-home tool, disconnect expended oxygen generator electrical wires from oxygen generator terminal block.

CAUTION: IF GENERATOR HAS NOT BEEN EXPENDED, PERSONNEL MUST BLEED OFF ANY STATIC ELECTRICAL CHARGE. WITH PSM ELECTRIC CONNECTOR CONNECTED TO AIRCRAFT WIRING, TOUCH READING LIGHT CASE GROUND CONNECTION (TERMINAL NOT INSULATED WITH TERMINAL COVER).

(11) Disconnect unused generator as follows:

(a) With bare hand, connect one alligator clip of grounding wire to ground stud.

NOTE: Reading light case ground connection (terminal not insulated with terminal cover) may be used for ground stud if PSM electrical connector is connected to aircraft wiring.

(b) With bare hand, connect second clip to pin on red electrical lead at terminal C of terminal module.

(c) Use poke-home tool to remove lead.

(d) With bare hand, move clip to pin on black lead at terminal B.

(e) Use poke-home tool to remove lead.

(f) Use same type of protective cap as used on generator outlet parts to hold electrical leads in contact with each other.

CAUTION: HANDLE OXYGEN GENERATOR WITH CARE. DO NOT DENT HEAT SHIELD.

(12) Disconnect oxygen mask tubes from oxygen generator manifold and install protective caps on outlet ports.

(13) Unlatch overcenter toggle oxygen generator clamp and slide the generator out.

D. Installation in Center PSM

CAUTION: BEFORE HANDLING OXYGEN GENERATOR, VERIFY THAT PROTECTIVE CAPS ARE INSTALLED ON OUTLET PORTS. VERIFY THAT SAME TYPE PROTECTIVE CAP AS USED ON OUTLET PORT IS USED TO HOLD ELECTRICAL LEADS IN CONTACT WITH EACH OTHER. IF NECESSARY TO INSTALL CAP ON ELECTRICAL LEADS, HOLD WIRES BY INSULATION WHILE INSTALLING CAP. DO NOT USE TAPE ON LEADS. DO NOT TOUCH BARE WIRES OR TERMINALS.

HANDLE OXYGEN GENERATOR WITH CARE. DO NOT DENT HEAT SHIELD.

(1) Verify that circuit breakers opened in Steps 4C(1) and 4C(2) are opened and tagged.

(2) Verify that paint stripe nearest manifold is white or light in color. Slide oxygen generator into its mounting position and secure with overcenter toggle clamp.

CAUTION: BEFORE REMOVING PROTECTIVE CAP FROM ELECTRICAL LEADS, VERIFY THAT PSM ELECTRICAL CONNECTOR IS CONNECTED TO AIRCRAFT WIRING AND BLEED OFF ANY STATIC ELECTRICAL CHARGE BY TOUCHING READING LIGHT CASE GROUND CONNECTION (TERMINAL NOT INSULATED WITH TERMINAL COVER).

C (3) Deleted

(4) Check continuity of initiator.

(a) Set ohmmeter resistance scale to RX1.

(b) Connect ohmmeter across generator leads.

(c) Verify that resistance is 2.0 to 2.6 ohms.

(5) Connect generator as follows:

(a) With bare hand, connect one alligator clip of grounding wire to ground stud.

NOTE: Reading light case ground connection (terminal not insulated with terminal cover) may be used for ground stud if PSM electrical connector is connected to aircraft wiring.

(b) With bare hand, connect second clip to pin on black electrical lead.

(c) Use poke-home tool to insert black lead into terminal B of terminal module.

(d) With bare hand, move clip to pin on red electrical lead.

(e) Use poke-home tool to insert red lead into terminal C.

(6) Remove protective caps from outlet ports and connect oxygen mask tubes to oxygen generator manifold. Engagement of tubes over outlet ports to be 0.25 inch minimum.

(7) Close PSM far enough to connect air hose then close fully.

(8) Slide PSM backward to its correct position and slide shear pins into track.

(9) Close both PSM front panels.

(10) Remove tags and close circuit breakers opened in Steps 4C(1) and 4C(2).

(11) Perform BITE test to verify operation of passenger oxygen system (Ref. 35-21-00).

E. Removal from Lavatories, Cabin Attendants and Food Service Specialists Oxygen Module Assemblies

NOTE: Single person type Fixed Chemical Oxygen Generators with external filter (P/N 801462-01) are not to be used as a replacement part for single person type Fixed Chemical Oxygen Generators with internal filter (P/N 801462-04).

(1) On PASS. OXYGEN section of pilots overhead circuit breaker panel CB1. zone 210, open and tag following circuit breakers:

NORMAL MASK (J15)

NORMAL GEN (J16)

OVERRIDE MASK (J17)

OVERRIDE GEN (J18)

(2) On galley left circuit breaker panel, zone 131, open and tag circuit breakers:

POWER - PASS. SVCE MDL - 1, 2, 3, 4, 5, 6, 7, and 8

(3) Open latch pin door on oxygen module and unlatch double bolted pin from receiver.

(4) Hold module and swing it downward to free module locating pins from retainer on ceiling panel.

(5) Lower module guiding it through hole in ceiling.

(6) Disconnect electrical connector from module.

(7) Using poke-home tool, disconnect expended oxygen generator electrical wires from oxygen generator terminal block.

CAUTION: IF GENERATOR HAS NOT BEEN EXPENDED, PERSONNEL MUST BLEED OFF ANY STATIC ELECTRICAL CHARGE BEFORE TOUCHING UNUSED GENERATOR.

(8) Disconnect unused generator as follows.

(a) With bare hand, connect one alligator clip of grounding wire to ground stud.

NOTE: Reading light case ground connection (terminal not insulated with terminal cover) may be used for ground stud if PSM electrical connector is connected to aircraft wiring.

(b) With bare hand, connect second clip to pin on red electrical lead at terminal C of terminal module.

(c) Use poke-home tool to remove lead.

(d) With bare hand, move clip to pin on black lead at terminal B.

(e) Use poke-home tool to remove lead.

(f) Use same type of protective cap as used on generator outlet parts to hold electrical leads in contact with each other.

CAUTION: HANDLE OXYGEN GENERATOR WITH CARE. DO NOT DENT HEAT SHIELD.

(9) Disconnect oxygen tube from oxygen generator manifold and install protective cap on outlet port.

(10) Unlatch overcenter toggle oxygen generator clamp and slide out oxygen generator.

F. Installation in Lavatories, Cabin Attendants and Food Service Specialists Oxygen Module Assembly

NOTE: Single person type Fixed Chemical Oxygen Generators with external filter (P/N 801462-01) are not to be used as a replacement part for single person type Fixed Chemical Oxygen Generators with internal filters (P/N 801462-04).

CAUTION: BEFORE HANDLING OXYGEN GENERATOR, VERIFY THAT PROTECTIVE CAP IS INSTALLED ON OUTLET PORT. VERIFY THAT SAME TYPE PROTECTIVE CAP AS USED ON OUTLET PORT IS USED TO HOLD ELECTRICAL LEADS IN CONTACT WITH EACH OTHER. IF NECESSARY TO INSTALL CAP ON ELECTRICAL LEADS, HOLD WIRES BY INSULATION WHILE INSTALLING CAP. DO NOT USE TAPE ON LEADS. DO NOT TOUCH BARE WIRES OR TERMINALS.

HANDLE OXYGEN GENERATOR WITH CARE. DO NOT DENT HEAT SHIELD.

(1) Verify that circuit breakers opened in Steps 4E(1) and 4E(2) are open and tagged.

(2) Verify that paint strip nearest manifold is white or light in color. Slide oxygen generator into its mounting position and secure with overcenter toggle clamp.

CAUTION: BEFORE REMOVING PROTECTIVE CAP FROM ELECTRICAL LEADS, PERSONNEL MUST BLEED OFF ANY STATIC ELECTRICAL CHARGE BY TOUCHING READING LIGHT CASE GROUND CONNECTION (TERMINAL NOT INSULATED WITH TERMINAL COVER).

(3) Remove protective cap from leads.

(4) Check continuity of initiator.

(a) Set ohmmeter resistance scale to RX1.

(b) Connect ohmmeter across generator leads.

(c) Verify that resistance is 2.0 to 2.6 ohms.

(5) Connect generator as follows:

(a) With bare hand, connect one alligator clip of grounding wire to ground stud.

NOTE: Reading light case ground connection (terminal not insulated with terminal cover) may be used for ground stud if PSM electrical connector is connected to aircraft wiring.

(b) With bare hand, connect second clip to pin on black electrical lead.

(c) Use poke-home tool to insert black lead into terminal B of terminal module.

(d) With bare hand, move clip to pin on red electrical lead.

(e) Use poke-home tool to insert red lead into terminal C.

(6) Remove protective cap from outlet port and connect oxygen tube to oxygen generator manifold. Engagement of tube over outlet port to be 0.25 inch minimum.

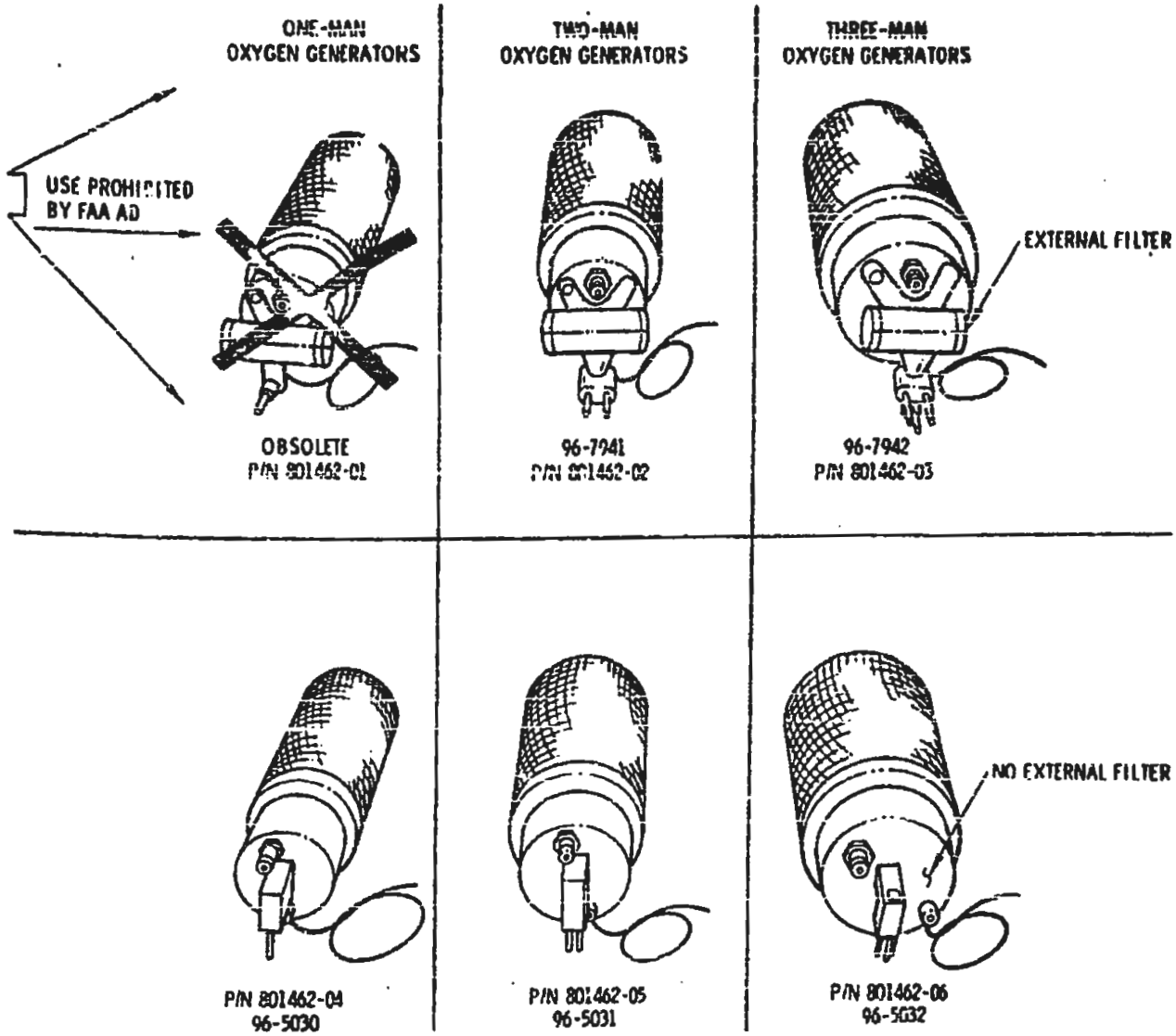
(7) Connect electrical connector to module.

(8) Guide module through hole in ceiling and connect module locating pins to retainer on ceiling panel.

(9) Swing module up into latched position.

(10) Remove tags and close circuit breakers opened in Step 4E(1) and 4E(2).

(11) Perform BITE test to verify operation of passenger oxygen system (Ref. 35-21-00).



MI-0001-35-624

C
C

Oxygen Generator Assemblies
Figure 401

R
R
001B

EFFECTIVITY: ALL

FIXED CHEMICAL OXYGEN GENERATOR - INSPECTION AND CHECK

1. General

This procedure outlines the steps to be performed to check the condition of the three sizes of fixed chemical oxygen generators.

NOTE: Inspection of mask stowage racks (Ref. 35-21-08, 35-21-09, and 35-21-10) may be performed concurrently with this procedure.

2. Referenced Procedure

35-21-02	Fixed Chemical Oxygen Generator - Removal and Installation
35-21-08	Oxygen Mask Stowage Rack, Center Passenger Service Module - Inspection and Check
35-21-09	Oxygen Mask Stowage Rack, Outboard Passenger Service Module - Inspection and Check
35-21-10	Lavatories, Cabin Attendants, and Food Service Specialists Mask Racks - Inspection and Check

3. Inspection/Check

A. Check Oxygen Generator at Outboard and Center Passenger Service Modules

R (1) On passenger service module (PSM), retract forward
R panel support latches, and hinge panel aft and
R downward. Lower forward panel of next PSM aft to
R provide clearance to lower PSM.

(2) Support forward end of module.

(3) Retract and lock module forward glide pin release knobs in detents.

(4) Release module forward glide pins from tracks and allow forward end of module to drop far enough for access to air hose. At the outboard PSM, detach secondary support lanyard (if installed).

(5) Detach air hose.

(6) Allow forward end of module to drop to fully opened position to expose oxygen generator.

R CAUTION: ON CENTER PASSENGER SERVICE MODULE, INSPECT OXYGEN
R MASK TUBING FOR POSSIBLE HEAT DAMAGE WHENEVER AN
R ADJACENT LUMINAIRE BALLAST FAILS OR THE OXYGEN
R GENERATOR IS INADVERTENTLY FIRED.

(7) Inspect generator for expended or unexpended conditions. In the unexpended condition there is one black stripe around the generator visible through the perforated heat shield with an adjacent white or light stripe (Ref. Fig. 601). If expended, the light stripe turns dark almost black. Any generator with two dark stripes is expended and should be removed and replaced (Ref. 35-21-02).

R CAUTION: ON CENTER PASSENGER SERVICE MODULE, VERIFY THAT
R THE OXYGEN MASK TUBING IS PROPERLY STOWED, BEFORE
R CLOSING PSM, TO PREVENT POSSIBLE HEAT DAMAGE
R CAUSED BY A FAILED LUMINAIRE BALLAST OR
R INADVERTENT FIRING OF THE OXYGEN GENERATOR.

(8) Close module enough to connect air hose. At outboard PSM connect secondary support lanyard (if installed). Fully close module.

(9) Slide shear pins into tracks.

(10) Close module front panel.

5. Check Oxygen Generator at Lavatories and Cabin Attendants Oxygen Modules

(1) Open latch pin door on module and unlatch spring-loaded double-bolt support latch while supporting module.

(2) Allow module to swing downward to disengage locating pins from retainers on ceiling panel.

CAUTION: WHEN LOWERING MODULE DO NOT EXCEED LENGTH OF SERVICE LOOP IN ELECTRICAL WIRING

(3) Lower module enough to expose generator.

(4) Inspect generator for expended conditions. In the unexpended condition there is one black stripe around the generator visible through the perforated heat shield with one adjacent white or light stripe (Ref. Fig. 601). If expended the light stripe turns almost black. Any generator with two dark stripes is expended and should be removed and replaced (Ref. 35-21-02).

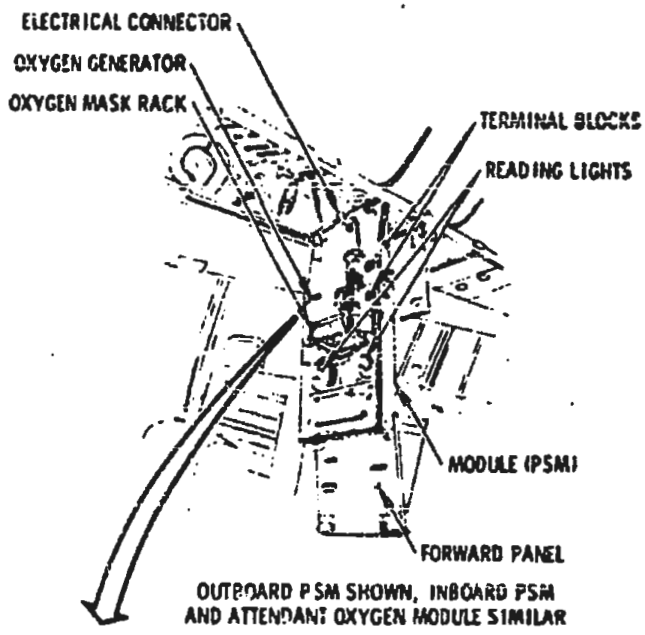
(5) Guide module into opening in ceiling and engage locating pins in retainers.

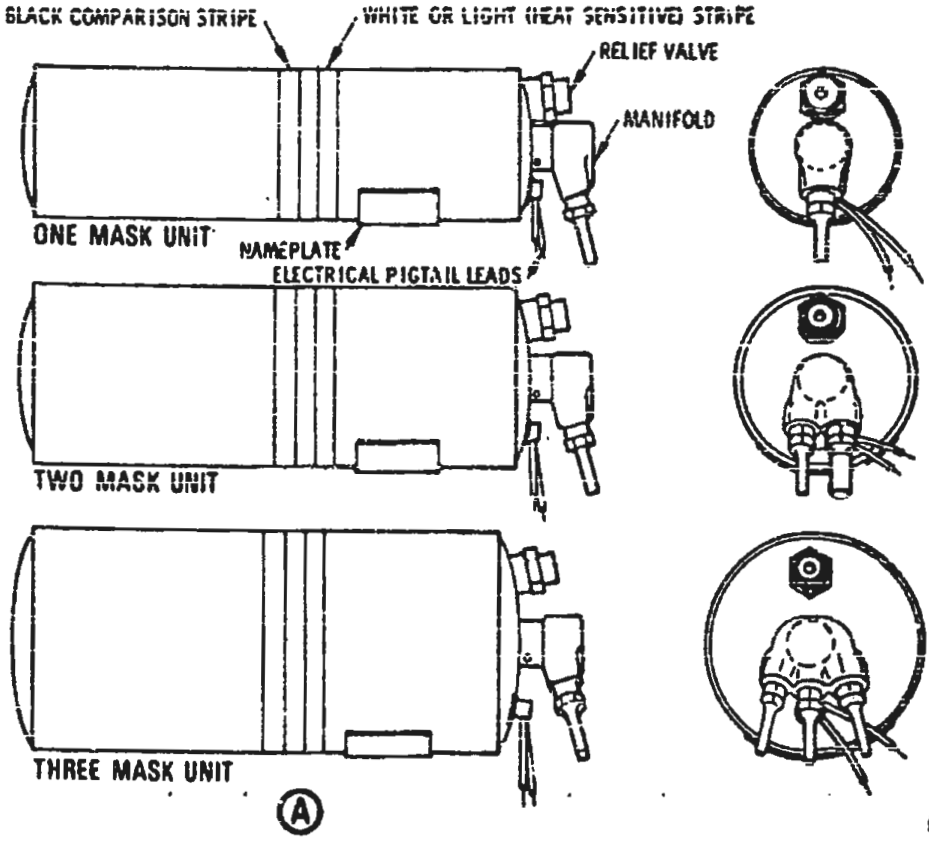
(6) Swing module up into opening.

(7) Latch module.

(a) Insert thumb and index finger through access door opening and squeeze extensions of spring-loaded double-bolt support latch.

(b) Push module until flush with ceiling and release latch.





M1-0001-35-387

R R Fixed Chemical Oxygen Generator
Figure 601

R R 001B EFFECTIVITY: ALL

PASSENGER OXYGEN MASK - MAINTENANCE PRACTICES

1. General

R A. This procedure outlines the steps to be performed to wrap all passenger oxygen masks for installation in the stowage racks. Steps to install the masks in the different stowage racks are included.

CR B. Masks which have been packed by other than TWA mechanics are CR considered to be temporarily repacked and must be finally CR repacked during the next layover at a station with a CR "Maintenance Manager". In addition, refer to the GP&P CR Manual, 1-35-6, for further procedures that must be complied CR with after every mask drop incident.

2. Equipment and Materials

Mask Wrapping Mandrel, Sierra Engineering Co., PN 776-112, or equivalent

3. Maintenance Practices

A. Oxygen Mask Wrapping Procedure

NOTE: Numbers in parentheses in following steps refer to corresponding numbered views in Figure 201.

(1) Place oxygen mask assembly on clean flat surface with facecup at right and large diameter of facecup up (1).

(2) Fully extend reservoir bag and lay headstrap along center of bag (1).

C (3) Passenger oxygen mask head straps should be checked as C follows:

C (a) The orange cup passenger oxygen mask TWA Stk Nbr C 94-8171 (installed in passenger service units) C must be equipped with an elastic head band to C secure the mask in place during wearing. Civil C Air Regulations specify the head band requirement C for this mask.

C (b) Whenever checking or installing the subject mask C make certain that it incorporates a head band C which meets the length requirement in Fig. 202. C Adjust to length shown if necessary. TWA part

C number for a replacement head band is TWA Stk Nbr
C 94-3391.

C NOTE: Head bands which have lost their elasticity
C should be replaced.

(4) Fold upper half of bag lengthwise down over lower half with fold along upper edge of tube (2).

(5) Fold approximately one-third of bag lengthwise toward first fold (3).

(6) Fold bag lengthwise again, placing second fold over first fold (4).

(7) Place facecup on mask wrapping mandrel (5).

NOTE: Do not disturb folds in bag when moving mask assembly.

(8) Drape folded bag down side of facecup.

(9) Fold bag up and to left, at approximately 45 degrees angle, so that first fold lays along small diameter edge of facecup (6).

(10) Wrap bag around facecup. Keep fold of bag and tube along small diameter edge of facecup (7).

NOTE: Keep bag neat and wrapped snug. Do not distort facecup.

(11) Continue to coil tubing around facecup over bag laying each coil alongside previous coil (8).

(12) Verify that tubing covers as much of bag as possible and that there are no bulges and no edges or corners of bag sticking out (9).

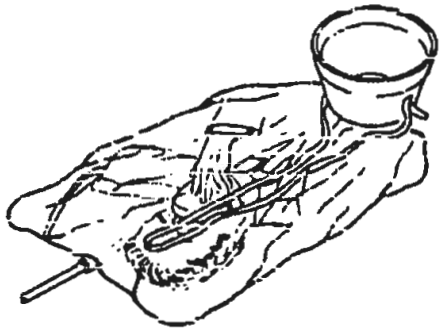
(13) Proceed to appropriate procedure to load oxygen mask into stowage rack.

B. Loading One Oxygen Mask Into Center Passenger Service Module Stowage Rack

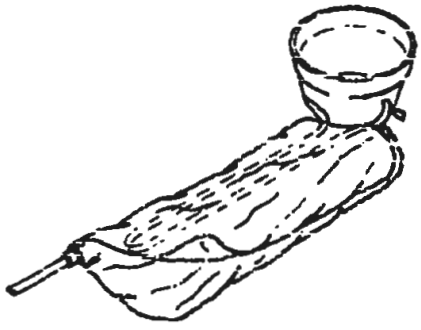
(1) Place stowage rack on clean surface (Ref. Fig. 203).

(2) Remove covers from slots of partition location No. 1 and install partition.

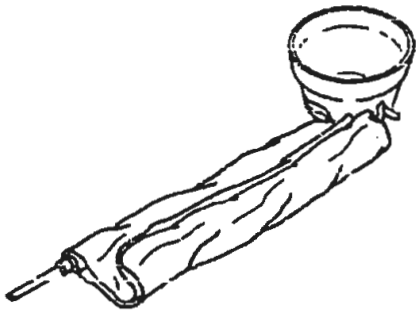
(3) Uncoil approximately 11 inches of tube from mask and insert through tube outlet No. 1 from inside rack.



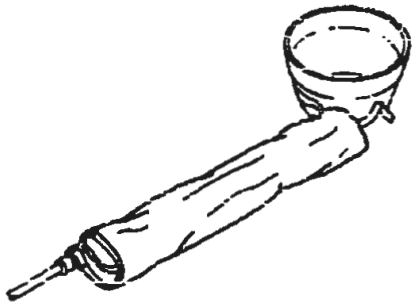
1 FACE UP
RESERVOIR BAG EXTENDED
HEADSTRAP ON RESERVOIR BAG



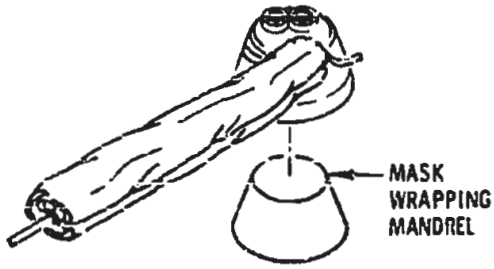
2 FIRST FOLD OF RESERVOIR BAG



3 SECOND FOLD OF RESERVOIR BAG

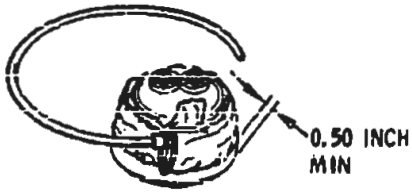


4 FINAL FOLD OF RESERVOIR BAG

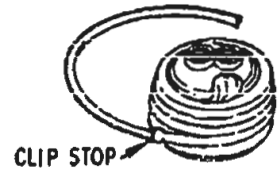


5 PLACE FACECUP ON MANDREL

6 FOLD RESERVOIR BAG UP TO LEFT



7 WRAP RESERVOIR BAG CLOCKWISE

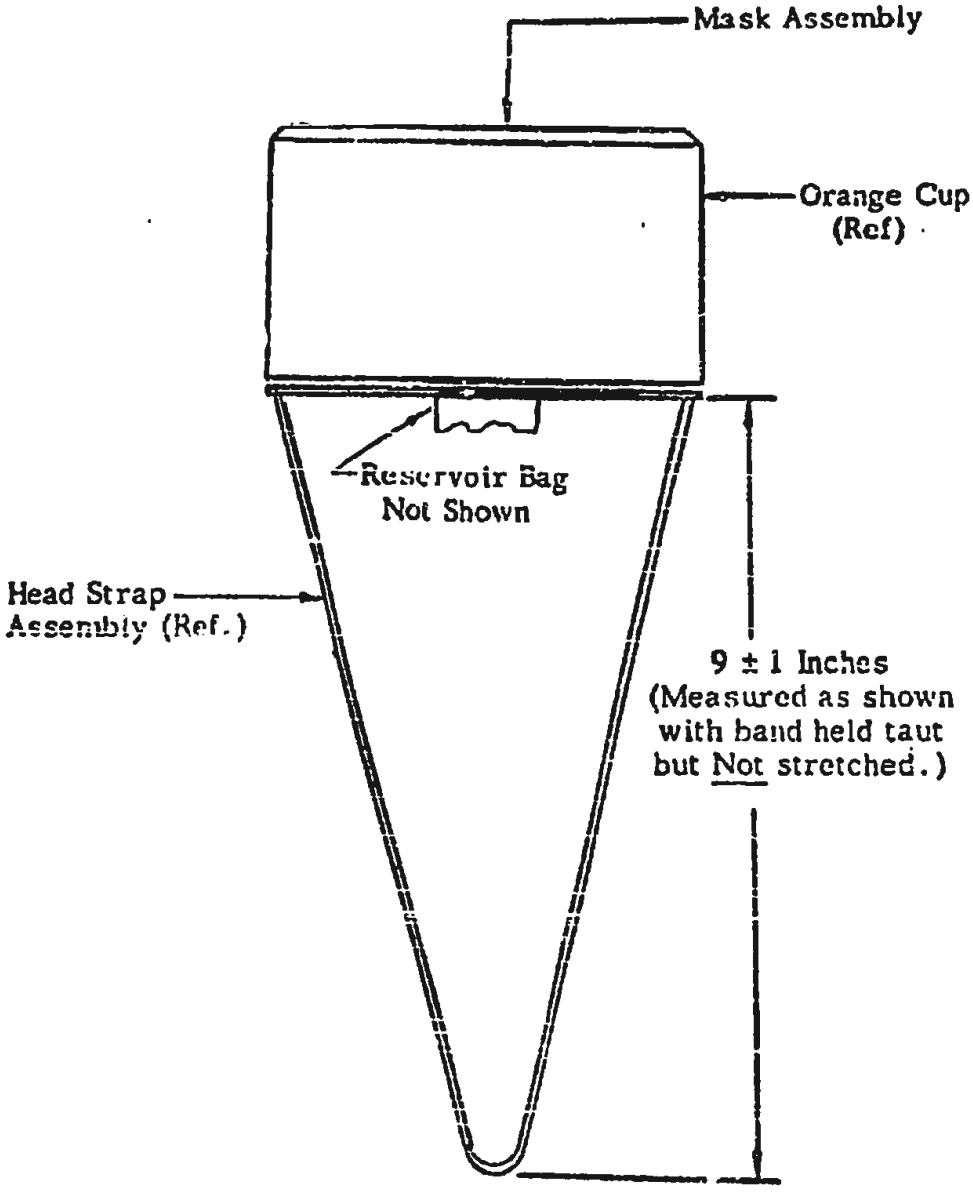


8 WRAP TUBING OVER RESERVOIR BAG

HA 1328
M1-0100-35-050

R Passenger Oxygen Mask - Wrapping Procedure
R Figure 201

R EFFECTIVITY: ALL
R
050



HA 2469
M1-500C-35-059

Passenger Oxygen Mask Head Strap
Figure 202

(4) Place mask in rack with small diameter end against partition.

NOTE: Spring-loaded, mask-retaining arm must be rotated out of way to allow mask to be set into rack.

(5) Rotate mask in rack to place clip stop 0.00 to 0.25 inch from edge of rack.

(6) Maintain dimension of Step 3B(5) while adjusting free end of tube to length of 9.00 (±0.50) inches from tube outlet.

NOTE: Tube coils must lay flat around mask facecup without distorting facecup.

(7) Slide locking sleeve on free end of tube and seat in tube outlet.

(8) Verify that retaining arm can be rotated without contacting clip stop.

(9) Thread tube through tube guides on top of rack.

(10) If stowage rack is not to be installed in passenger service module at this time, store rack in heat-sealed, clear polyethylene bag.

C. Loading Two Oxygen Masks Into Center Passenger Service Module Stowage Rack

(1) Place stowage rack on clean surface (Ref. Fig. 204).

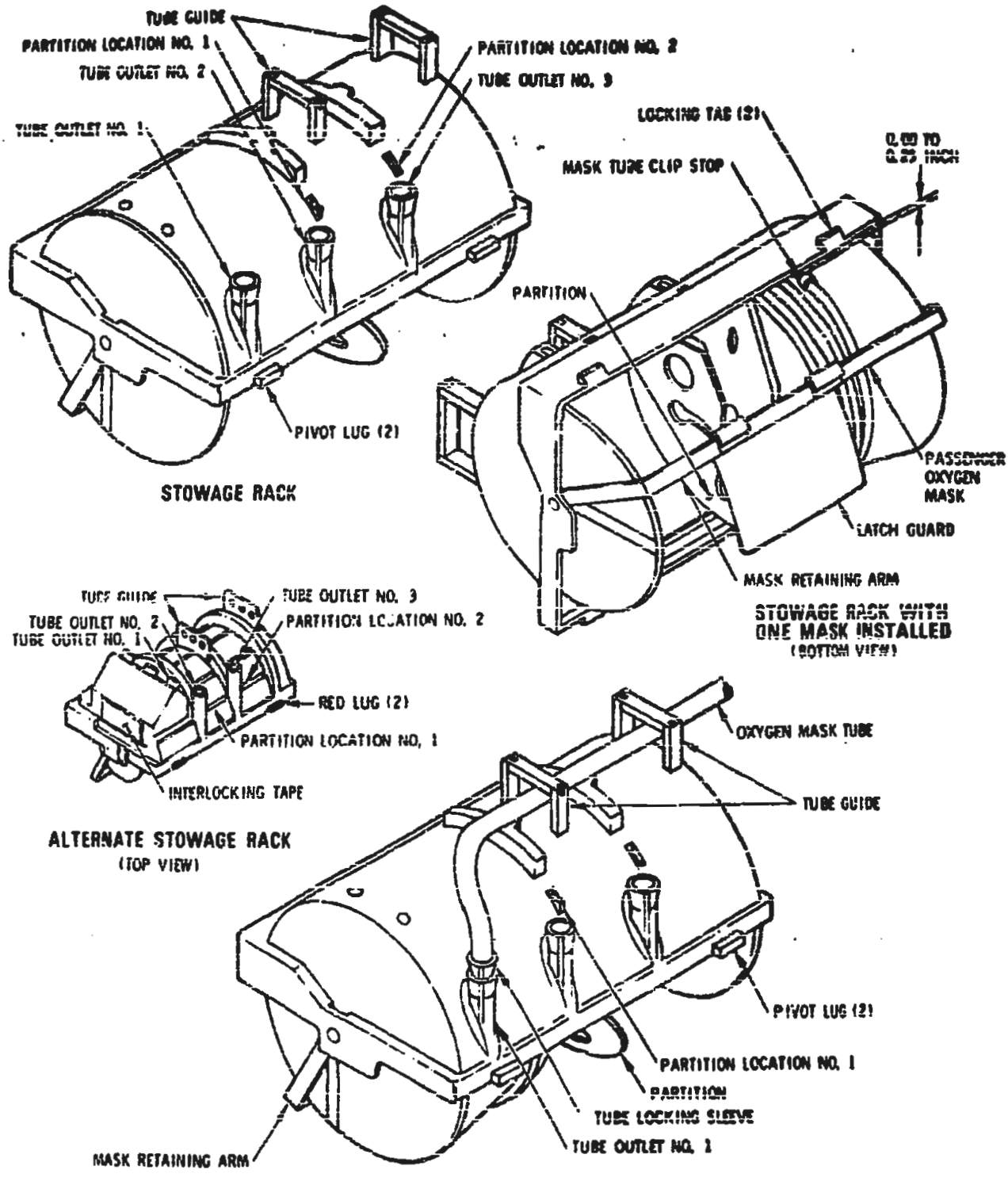
(2) Remove covers from slots at partition location No. 2 and install partition.

(3) Uncoil approximately 11 inches of tube from first mask and insert through tube outlet No. 2 from inside rack.

(4) Place mask in rack with small diameter end against partition.

NOTE: Spring-loaded, mask-retaining arm must be rotated out of way to allow mask to be set into rack.

(5) Rotate mask in rack to place clip stop 0.00 to 0.25 inch from edge of rack.



CR Loading One Oxygen Mask Into Center Stowage Rack
CR Figure 203

(6) Maintain dimension of Step 3C(5) while adjusting free end of tube to length of 9.00 (±0.50) inches from tube outlet.

NOTE: Tube coils must lay flat around mask facecup without distorting facecup.

(7) Slide locking sleeve on free end of tube and seat in tube outlet.

(8) Uncoil approximately 11 inches of tube from second mask and insert through tube outlet No. 1 from inside rack.

(9) Place mask in rack with small diameter end nested into open end of first mask.

NOTE: Spring-loaded, mask-retaining arm must be rotated out of way to allow mask to be set into rack.

(10) Verify that masks nest cleanly and are not distorted.

(11) Rotate second mask in rack to place clip stop 0.00 to 0.25 inch from edge of rack. Do not disturb position of first mask.

(12) Maintain dimension of Step 3C(11), while adjusting free end of tube to length of 9.00 (±0.50) inches from tube outlet.

NOTE: Tube coils must lay flat around mask facecup without distorting facecup.

(13) Slide locking sleeve on free end of tube and seat in tube outlet.

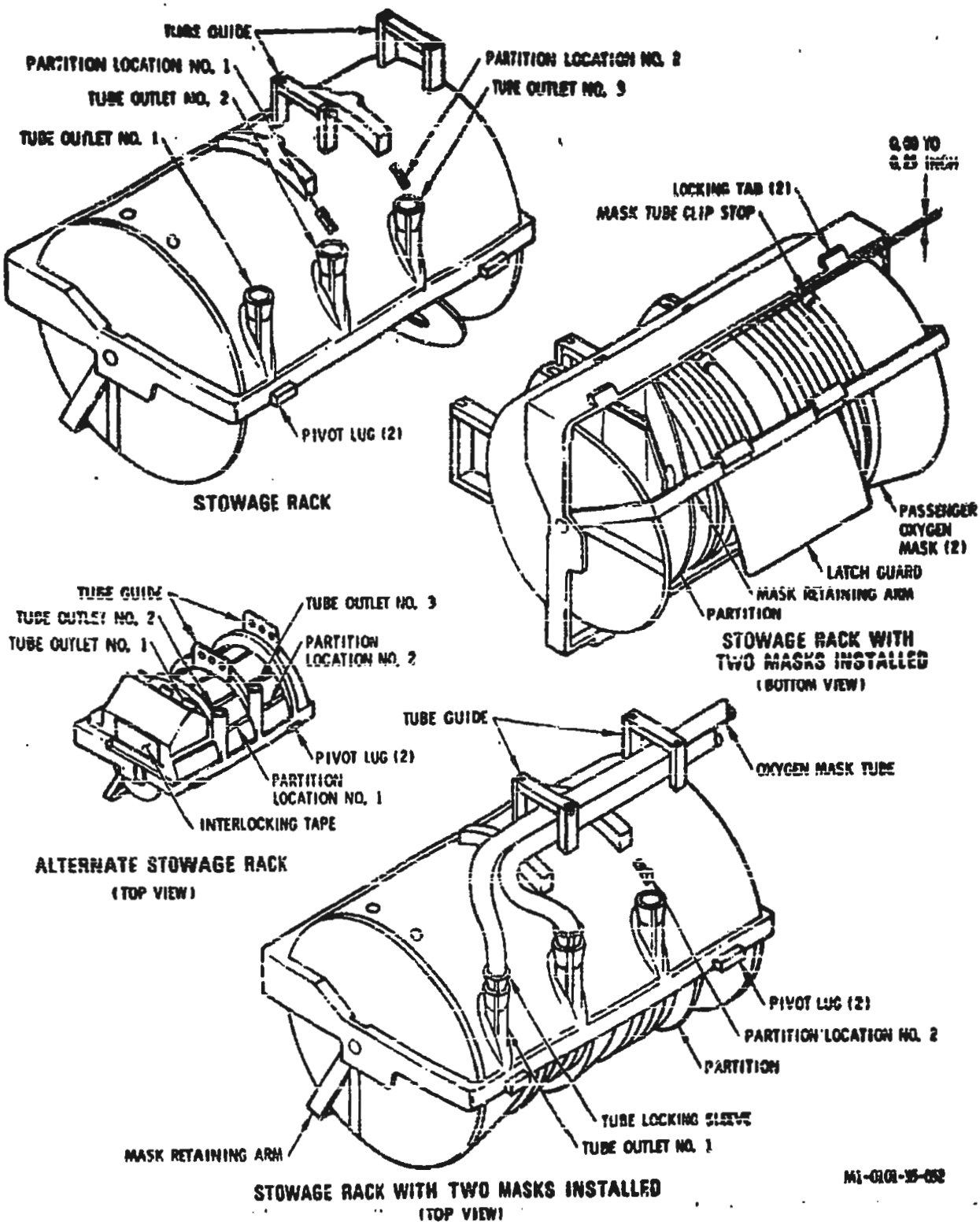
(14) Verify that retaining arm can be rotated without contacting clip stops.

(15) Thread tubes through tube guides on top of rack.

(16) If stowage rack is not to be installed in passenger service module at this time, store rack in heat-sealed, clear polyethylene bag.

D. Loading Three Oxygen Masks Into Center Passenger Service Module Stowage Rack

(1) Place stowage rack on clean flat surface (Ref. Fig. 205).



CR Loading Two Oxygen Masks Into Center Stowage Rack
CR Figure 204

(2) Uncoil approximately 11 inches of tube from first mask and insert through tube outlet No. 3 from inside rack.

(3) Place mask in rack with small diameter end against end of rack.

NOTE: Spring-loaded, mask-retaining arm must be rotated out of way to allow mask to be set into rack.

(4) Rotate mask in rack to place clip stop 0.00 to 0.25 inch from edge of rack.

(5) Maintain dimension of Step 3D(4) while adjusting free end of tube to length of 9.00 (±0.50) inches from tube outlet.

NOTE: Tube coils must lay flat around mask facecup without distorting facecup.

(6) Slide locking sleeve on free end of tube and seat in tube outlet.

(7) Uncoil approximately 11 inches of tube from second mask and insert through tube outlet No. 2 from inside rack.

(8) Place mask in rack with small diameter end nested into open end of first mask.

NOTE: Spring-loaded, mask-retaining arm must be rotated out of way to allow mask to be set into rack.

(9) Verify that masks nest cleanly and are not distorted.

(10) Rotate second mask in rack to place clip stop 0.00 to 0.25 inch from edge of rack. Do not disturb position of first mask.

(11) Maintain dimension of Step 3D(10), while adjusting free end of tube to length of 9.00 (±0.50) inches from tube outlet.

NOTE: Tube coils must lay flat around mask facecup without distorting facecup.

(12) Slide locking sleeve on free end of tube and seat in tube outlet.

(13) Uncoil approximately 11 inches of tube from third mask and insert through tube outlet No. 1 from inside rack.

(14) Place mask in rack with small diameter end nested into open end of second mask.

NOTE: Spring-loaded, mask-retaining arm must be rotated out of way to allow mask to be set into rack.

(15) Verify that masks nest cleanly and are not distorted.

(16) Rotate third mask in rack to place clip stop 0.00 to 0.25 inch from edge of rack. Do not disturb position of first or second mask.

(17) Maintain dimension of Step 3D(16) while adjusting free end of tube to length of 9.00 (±0.50) inches from tube outlet.

NOTE: Tube coils must lay flat around mask facecup without distorting facecup.

(18) Slide locking sleeve on free end of tube and seat in tube outlet.

(19) Verify that retaining arm can be rotated without contacting clip stops.

(20) Thread tubes through tube guides on top of rack.

(21) If stowage rack is not to be installed in passenger service module at this time, store rack in heat-sealed, clear polyethylene bag.

E. Loading Three Oxygen Masks Into Outboard Passenger Service Module Stowage Rack

(1) Place stowage rack on clean surface (Ref. Fig. 206).

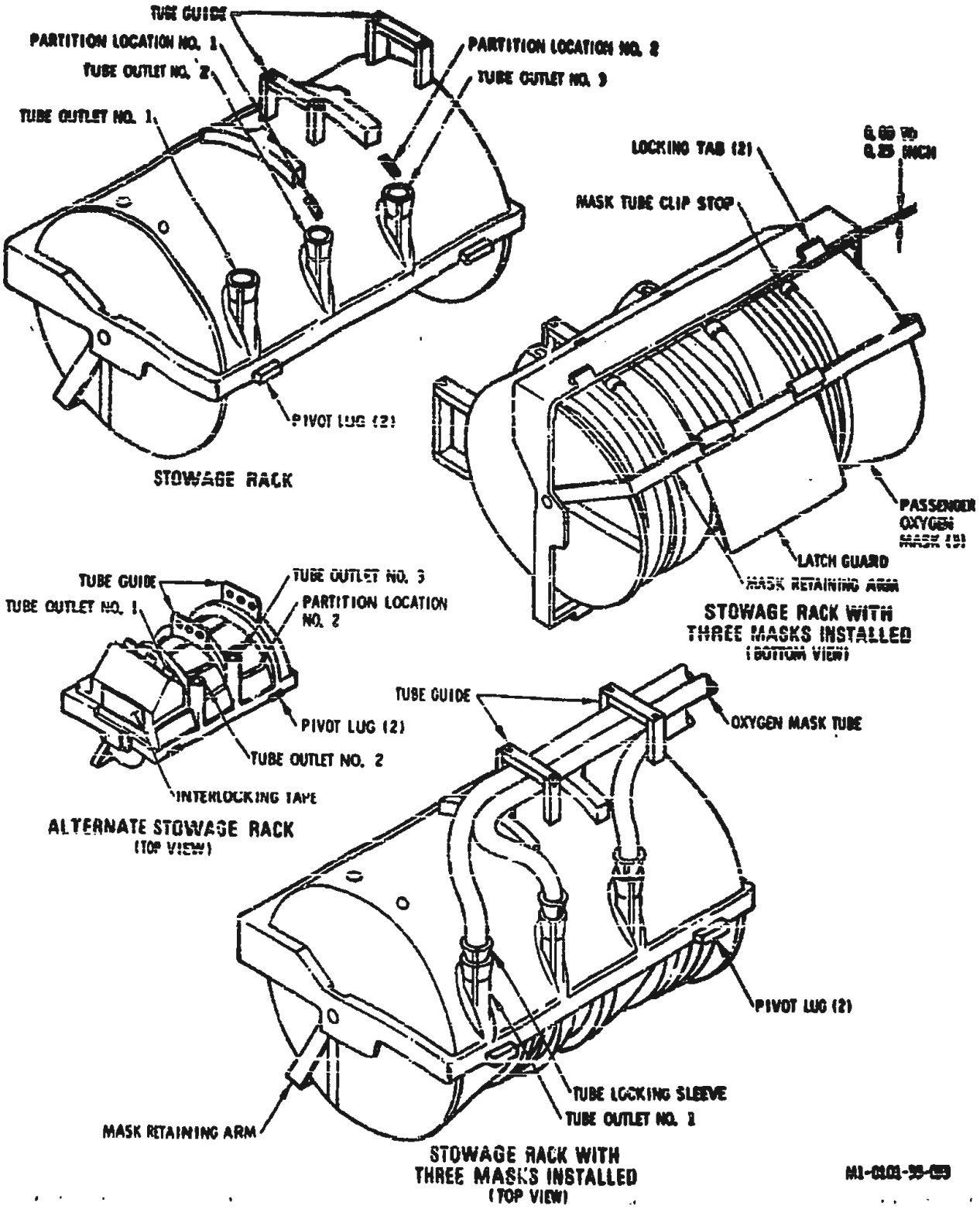
(2) Remove covers from slots at partition location No. 2 and install partition.

(3) Uncoil approximately 12 inches of tube from first mask and insert through tube outlet No. 1 from inside rack.

(4) Place mask in rack with small diameter end against end of rack.

NOTE: Spring-loaded, mask-retaining arm must be rotated out of way to allow mask to be set into rack.

(5) Rotate mask in rack to place clip stop 0.00 to 0.25 inch from edge of rack.



CR Loading Three Oxygen Masks Into Center Stowage Rack
CR Figure 205

(6) Maintain dimension of Step 3E(5), while adjusting free end of tube to length of 10.00 (±0.50) inches from tube outlet.

NOTE: Tube coils must lay flat around mask facecup without distorting facecup.

(7) Slide locking sleeve on free end of tube and seat in tube outlet.

(8) Uncoil approximately 12 inches of tube from second mask and insert through tube outlet No. 2 from inside rack.

(9) Place mask in rack with small diameter end nested into open end of first mask.

NOTE: Spring-loaded, mask-retaining arm must be rotated out of way to allow mask to be set into rack.

(10) Verify that masks nest cleanly and are not distorted.

(11) Rotate second mask in rack to place clip stop 0.00 to 0.25 inch from edge of rack. Do not disturb position of first mask.

(12) Maintain dimension of Step 3E(11), while adjusting free end of tube to length of 10.00 (±0.50) inches from tube outlet.

NOTE: Tube coils must lay flat around mask facecup without distorting facecup.

(13) Slide locking sleeve on face end of tube and seat in tube outlet.

(14) Uncoil approximately 12 inches of tube from third mask and insert through tube outlet No. 3 from inside rack.

(15) Place mask in rack with small diameter end nested into open end of second mask.

(16) Verify that masks nest cleanly and are not distorted.

(17) Rotate third mask in rack to place clip stop 0.00 to 0.25 inch from edge of rack. Do not disturb position of first or second mask.

(18) Maintain dimension of Step 3E(17), while adjusting free end of tube to length of 10.00 (±0.50) inches from tube outlet.

NOTE: Tube coils must lay flat around mask facecup without distorting facecup.

(19) Slide locking sleeve on free end of tube and seat in tube outlet.

(20) Verify that retaining arm can be rotated without contacting clip stops.

(21) Thread tubes through tube guide on top of rack.

(22) If stowage rack is not to be installed in passenger service module at this time, store rack in heat-sealed, clear polyethylene bag.

F. Loading Single Mask Lavatories and Cabin Attendants Stowage Rack

(1) Squeeze ends of stowage rack toward center of rack to disengage and remove keeper (Ref. Fig. 207).

(2) With open side of rack up and side No. 1 to right, place mask in rack with small diameter end against far end of rack.

(3) Verify that free end of tube passes between mask and side No. 2.

(4) Rotate mask in rack to place clip stop 0.25 to 1.00 inch from edge of side No. 1.

NOTE: Tube coils must lay flat around mask facecup without distorting facecup.

(5) Place keeper in position to retain mask in rack.

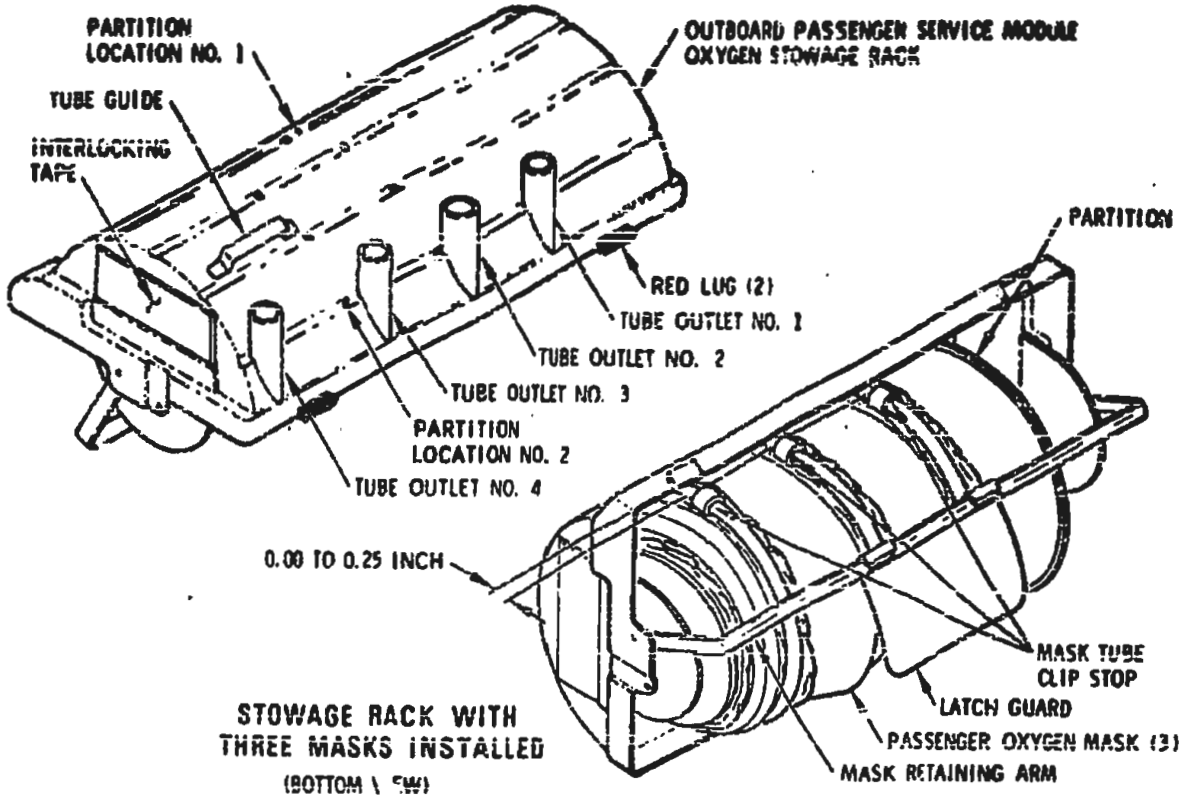
(6) If stowage rack is not to be installed in passenger service module at this time, store rack in heat-sealed, clear polyethylene bag.

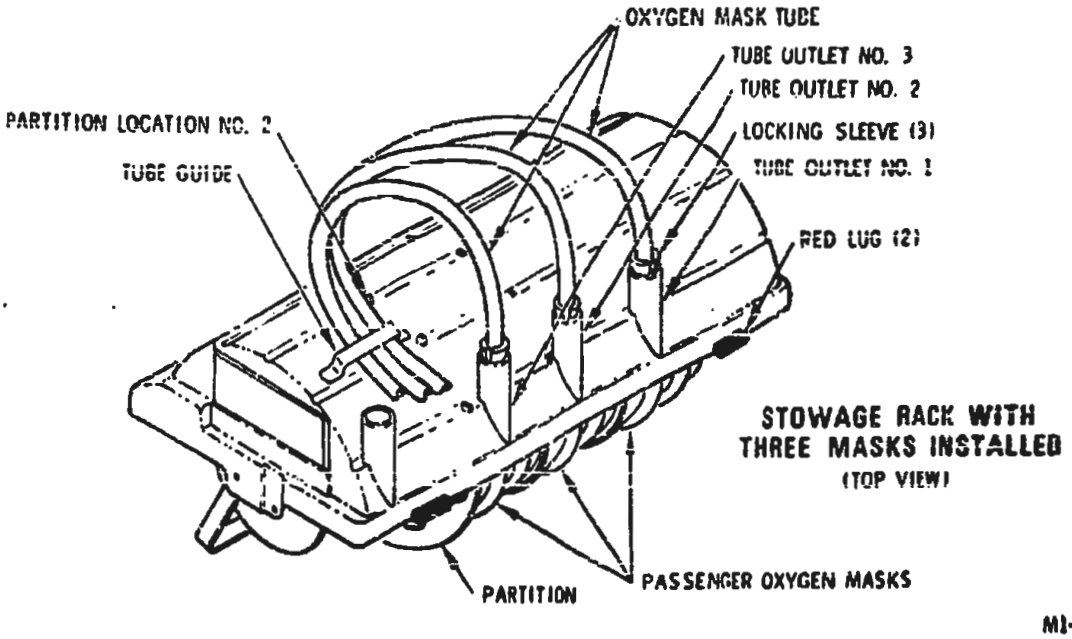
G. Loading Double Mask Lavatories and Cabin Attendants Stowage Rack

(1) Squeeze ends of stowage rack toward center of rack to disengage and remove keeper (Ref. Fig. 208).

(2) With open side of rack up and side No. 1 to right, place first mask in rack with small diameter end against far end of rack.

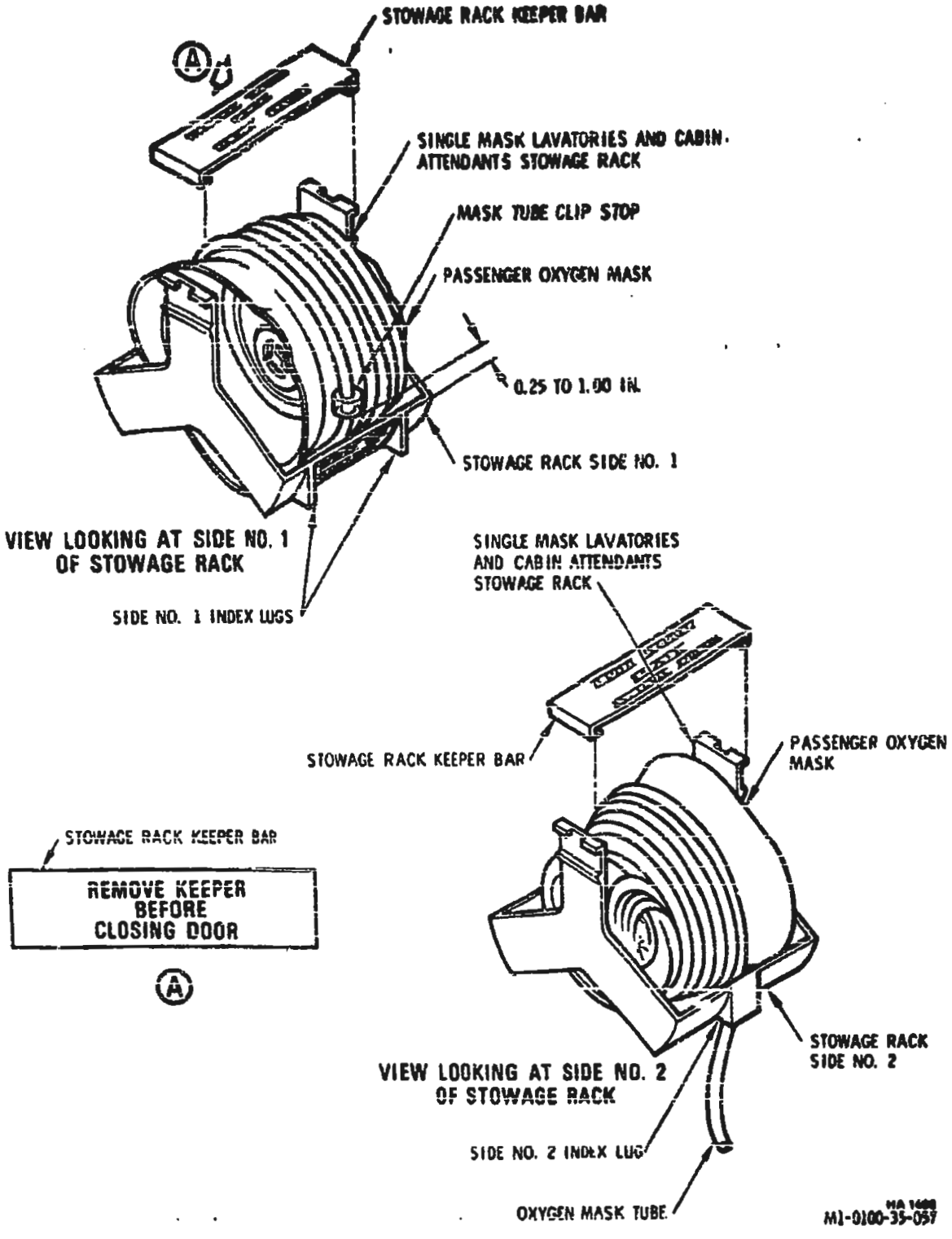
(3) Verify that free end of tube passes between mask and side No. 2.





M1-37701-35-055

CR Loading Three Oxygen Masks Into Outboard Stowage Rack
CR Figure 206


STOWAGE RACK KEEPER BAR
SINGLE MASK LAVATORIES AND CABIN ATTENDANTS STOWAGE RACK
MASK TUBE CLIP STOP
PASSENGER OXYGEN MASK
0.25 TO 1.00 IN.
STOWAGE RACK SIDE NO. 1
VIEW LOOKING AT SIDE NO. 1 OF STOWAGE RACK
SIDE NO. 1 INDEX LUGS
SINGLE MASK LAVATORIES AND CABIN ATTENDANTS STOWAGE RACK
STOWAGE RACK KEEPER BAR
PASSENGER OXYGEN MASK
STOWAGE RACK KEEPER BAR
REMOVE KEEPER BEFORE CLOSING DOOR
A
STOWAGE RACK SIDE NO. 2
VIEW LOOKING AT SIDE NO. 2 OF STOWAGE RACK
SIDE NO. 2 INDEX LUG
OXYGEN MASK TUBE
M1-0100-35-057

Loading Single Mask Lavatories and Cabin Attendants Stowage Rack
Figure 207

(4) Rotate mask in rack to place clip stop 0.25 to 1.50 inches from edge of side No. 1.

(5) Place second mask in rack with small diameter end toward open end of first mask.

(6) Verify that masks are not distorted.

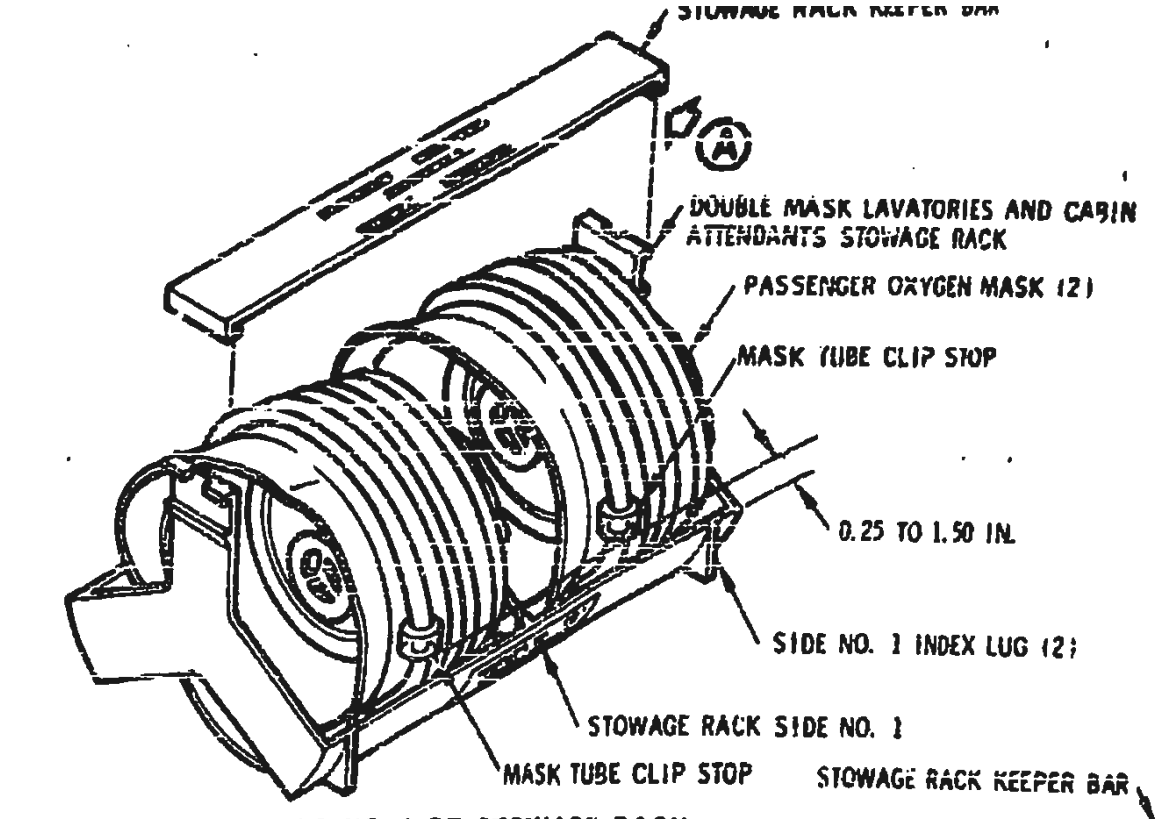
(7) Verify that free end of tube passes between mask and side No. 2.

(8) Rotate mask in rack to place clip stop 0.25 to 1.50 inches from edge of side No. 1.

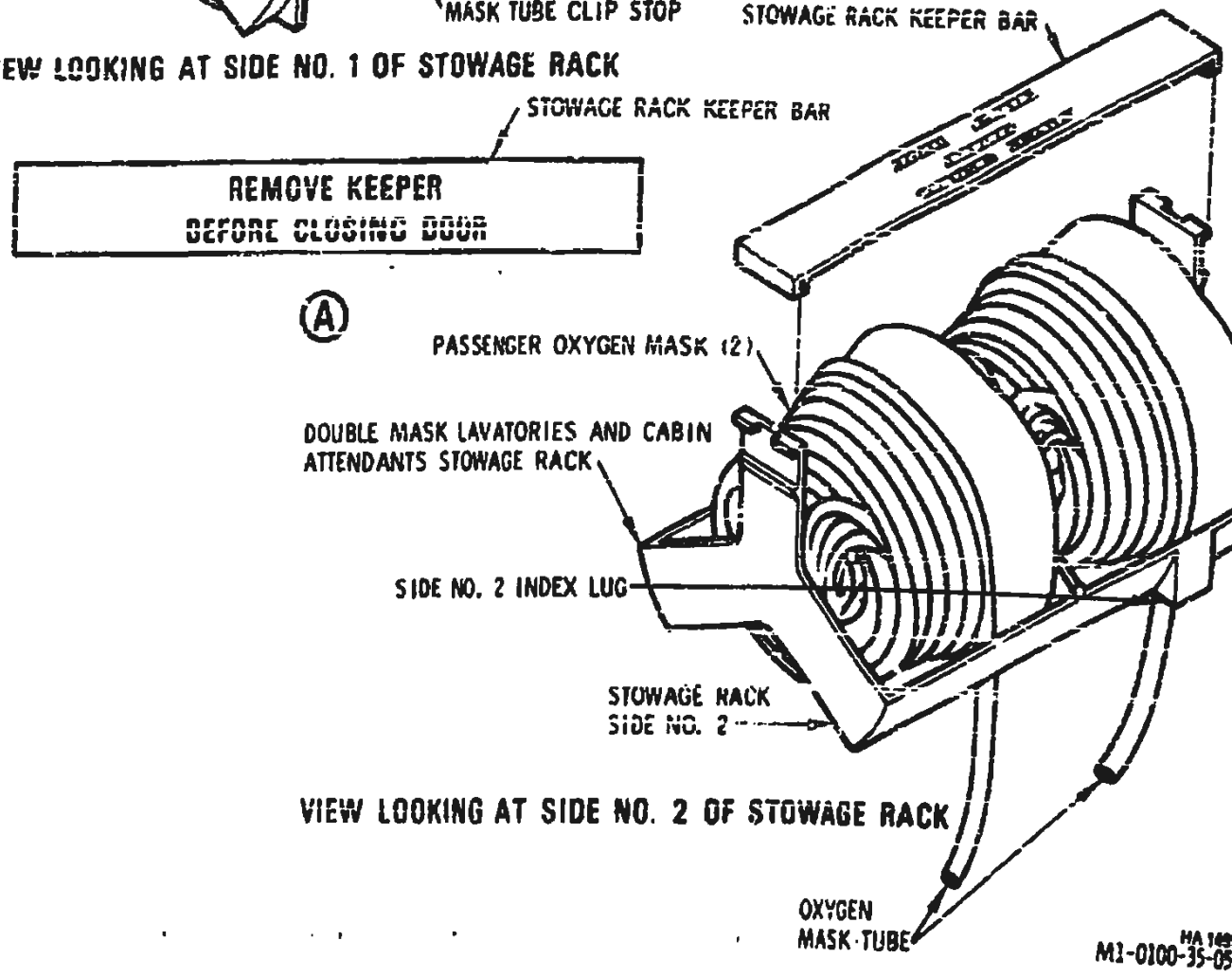
NOTE: Tube coils must lay flat around both mask facecups without distorting facecups.

(9) Place keeper in position to retain masks in rack.

(10) If stowage rack is not to be installed in passenger service module at this time, store rack in heat-sealed, clear polyethylene bag.


STOWAGE RACK KEEPER BAR
A
DOUBLE MASK LAVATORIES AND CABIN ATTENDANTS STOWAGE RACK
PASSENGER OXYGEN MASK (2)
MASK TUBE CLIP STOP
0.25 TO 1.50 IN.
SIDE NO. 1 INDEX LUG (2)
STOWAGE RACK SIDE NO. 1
MASK TUBE CLIP STOP

VIEW LOOKING AT SIDE NO. 1 OF STOWAGE RACK



VIEW LOOKING AT SIDE NO. 2 OF STOWAGE RACK

M1-0100-35-058

Loading Double Mask Lavatories and Cabin Attendants Stowage Rack
Figure 208

PASSENGER OXYGEN MASKS - REMOVAL AND INSTALLATION

1. General

A. The passenger oxygen masks are pre-packaged in oxygen mask storage racks and are not removed or installed separately.

C B. Masks which have been packed by other than TWA mechanics are
C considered to be temporarily repacked and must be finally
C repacked during the next layover at a station with a
C "Maintenance Manager". In addition, refer to the GP&P
C Manual, 1-35-6, for further procedures that must be complied
C with after every drop incident.

2. Referenced Procedures

35-21-03	Passenger Oxygen Masks - Maintenance Practices
35-21-08	Oxygen Mask Stowage Rack, Center Passenger Service Module
35-21-09	Oxygen Mask Stowage Rack, Outboard Passenger Service Module
35-21-10	Lavatories, Cabin Attendants, and Food Service Specialist Mask Rack

3. Removal/Installation

C A. The passenger oxygen masks are pre-packaged by the vendor in
C oxygen mask stowage racks and are not to be removed or
C installed separately by maintenance personnel. To remove
C and install oxygen mask storage racks in the center
C passenger service modules refer to 35-21-08. To remove and
C install oxygen mask storage racks in the outboard passenger
C service modules refer to 35-21-09. To remove and install
C oxygen mask storage racks in the lavatories and at the cabin
C attendants and food specialists stations refer to 35-21-10.

CR B. DELETED.

CR C. DELETED.

D. Steps to wrap the passenger oxygen masks and load the masks into the different racks are specified in 35-21-03, Mintenance Practices.

E. A complete ship set (plus some extra) of all required chemical oxygen generators, pax/cab attdt/lavatory oxygen masks/racks, door drop check kit and installation tools is stocked under kit RR15702 (Ref. IPC 35-21-00). Kit, TWA Stk Nbr 15702, consists of:

ITEM	NOMENCLATURE	TWA STK NBR	QUANTITY
1.	Oxygen Generator	96-5030	18
2.	Oxygen Generator	96-5031	16
3.	Oxygen Generator	96-5032	132
4.	Mask & Rack Ass'y	96-1288	3
5.	Mask & Rack Ass'y	96-1290	6
6.	Mask & Rack Ass'y	96-1292	12
7.	Mask & Rack Ass'y	96-6241	72
8.	Mask & Rack Ass'y	96-6242	5
9.	Mask & Rack Ass'y	96-6243	8
10.	Mask & Rack Ass'y	96-6244	62
11.	Restraint Clip Kit	*	1
12.	Poke-Home Tool	47-2861	5

*Tool Kit P/N 35-20-04-0007

F. Expended oxygen generators may be disposed of locally - they are not classified or restricted articles once they have been expended. Expended generators can be identified by two dark circumferential bands around the body. Unexpended generators have one light and one dark circumferential band.

MASK DOOR LATCH - REMOVAL AND INSTALLATION

1. General

These procedures are for removing and installing a mask compartment door latch. The center and outboard passenger service modules (PSM) door latch is covered in Paragraphs 4A and 4B. The lavatories, cabin attendant, and food service specialists oxygen module assembly is covered in Paragraphs 4A and 4C.

WARNING: DO NOT APPLY ANY TYPE OF LUBRICANT TO DOOR LATCH MECHANISM. LATCH MAY BE CLEANED USING ISOPROPYL ALCOHOL (FED SPEC TT-I-735 OR EQUIVALENT) AND DRIED WITH A CLEAN LINT-FREE CLOTH.

2. Equipment and Materials

R Passenger Oxygen System Test Set, PN K6802-TSK-2, or equivalent

R Oxygen Mask Compartment Latch Release Tool, PN 1617049, or
R equivalent

3. Referenced Procedures

35-21-08	Oxygen Mask Stowage Rack, Center Passenger Service Module - Removal and Installation
35-21-09	Oxygen Mask Stowage Rack, Outboard Passenger Service Module - Removal and Installation
35-21-10	Lavatories, Cabin Attendants, and Food Service Specialists Mask Racks - Removal and Installation

4. Removal/Installation

A. Removal

(1) On PASS. OXYGEN section of pilots overhead circuit breaker panel CB1, zone 210, open and tag following circuit breakers:

NORMAL MASK (J15)

NORMAL GEN (J16)

OVERRIDE MASK (J17)

OVERRIDE GEN (J18)

CAUTION: CARE MUST BE TAKEN TO KEEP COMPONENTS AND EQUIPMENT CLEAN AND FREE FROM OIL, GREASE, DUST, AND MOISTURE.

(2) Remove oxygen mask stowage rack (Ref. 35-21-08, 35-21-09, and 35-21-10).

(3) At door latch, identify and disconnect electrical wires (Ref. Fig. 401).

NOTE: To disconnect wires, cut at splice.

(4) Remove latch from compartment side wall.

B. Installation of PSM Door Latch

(1) Verify that circuit breakers opened in Step 4A(1) are open and tagged.

(2) Manually operate latch and verify that:

(a) Overtravel of latch plunger can be felt against internal spring.

(b) Latch shoe is loose and moves freely.

(c) There is no foreign material present that could interfere with latch operation.

(3) Install latch on compartment side wall.

(4) Verify that:

(a) Helper springs at latch side of compartment do not bind.

(b) Striker is not noticeably bent and fits into latch without exerting side loads.

NOTE: Striker may be bent to straighten.

(5) Close door. Instructions on how to close door are on decal on inside surface of door.

R NOTE: On aircraft 032-999,
R to open PSM door, place oxy latch release rod in
R opening provided on mask compartment door.
R Apply an upward force causing latch shoe to
R disengage from magnet and coil (Ref. Fig. 401).
Before closing door, apply enough upward force,

using a small metal rule, flat wooden stick or small screwdriver on the latch lever with the notched edge, until the latch shoe contacts the magnet and coil.

(6) Adjust latch vertically to position door surface flush with enclosure surface within 0.030 inch. Door may protrude from under surface of PSM at latch side 0.050 inch max. with 0.030 inch max differential along entire length of door to enclosure.

(7) Verify that:

(a) Door outside surface is positioned correctly.

(b) Gap between PSM surface and latch side of door is 0.02 inch minimum.

(c) There is no binding in door hinges, latch, or door edge to PSM.

(d) Overtravel of striker in latch can be felt by pressing at center of door opposite striker.

(8) Splice electrical wires as identified in Step 4A(3).

(9) Remove tags and close circuit breakers opened in Step 4A(1).

(10) Connect test set connector (P1 for outboard PSM, P2 for center PSM) to PSM and operate door several times (3 or 4) to verify adjustment and operation of latch [See NOTE on Step 4B(5)].

(11) Install oxygen mask stowage rack (Ref. 35-21-08, 35-21-09).

C. Installation of Lavatories, Cabin Attendants, and Food Service Specialists Oxygen Module Door Latch

(1) Verify that circuit breakers opened in Step 4A(1) are open and tagged.

(2) Install door latch on compartment side wall.

(3) Adjust latch vertically to position door flush with module.

NOTE: Both ends of electromagnet must contact permanent magnet on door when door is in closed position.

Permanent magnet must be oriented as shown in Figure 401 View E.

(4) Splice electrical wires as identified in Step 4A(3).

(5) Remove tags and close circuit breakers opened in Step 4A(1).

(6) Connect test set connector (P3) to module and operate door to verify adjustment and operation of latch.

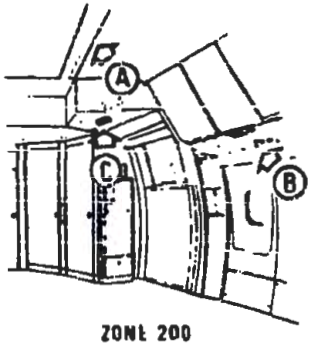
(7) Install mask rack in module (Ref. 35-21-10).

NOTE: When module is installed in ceiling, opening clearance dimensions between module and ceiling must be 0.05 inch at latch side of compartment door and 0.03 inch at hinge side of door.

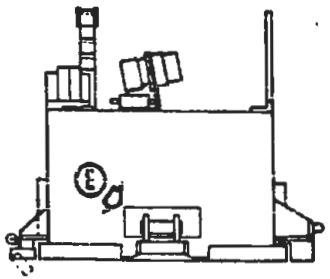
CR D. Module Door Latch

CR (1) When rebonding an oxygen module door latch magnet that
CR has come loose, make certain the latch magnet is
CR positioned as shown or the latch won't release (Ref.
CR Fig. 401).

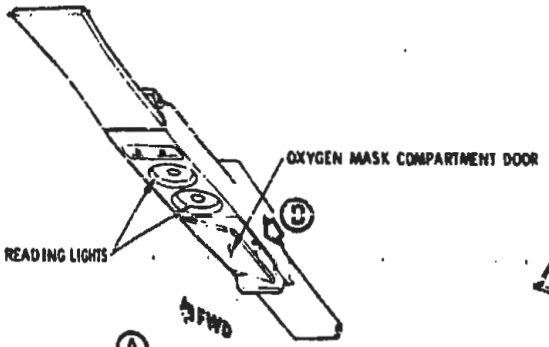
CR (2) If the position of the latch is rotated 180° opposite
CR that shown, the magnetic force will be reinforced,
CR rather than cancelled, when the door latch opening
CR circuit is energized.



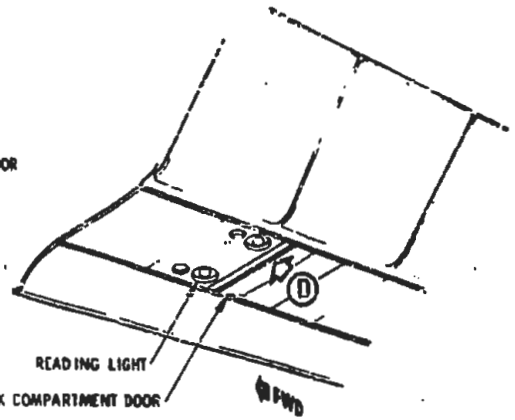
ZONE 200



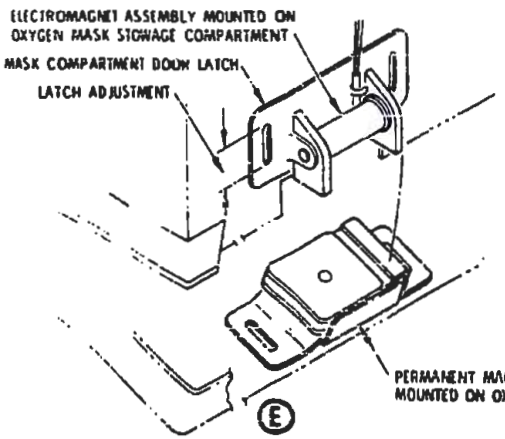
C
LAVATORIES, CABIN ATTENDANTS, AND FOOD SERVICE SPECIALISTS OXYGEN MODULE

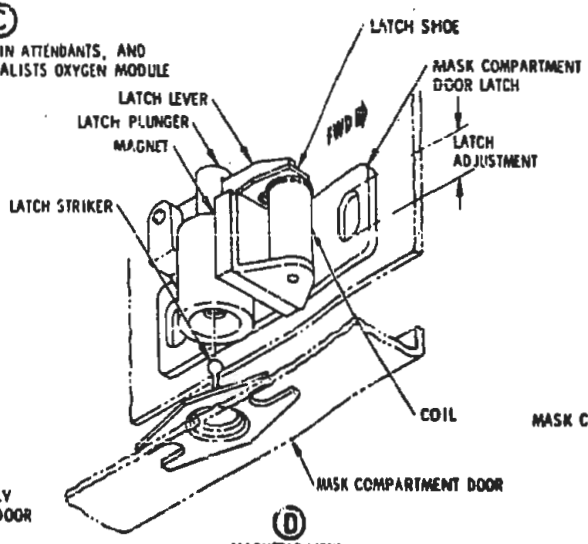


A
CENTER PASSENGER SERVICE MODULE

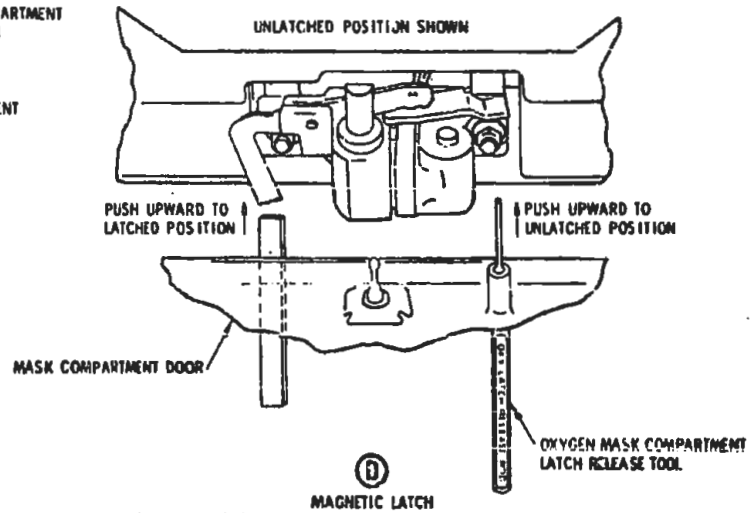


B
OUTBOARD PASSENGER SERVICE MODULE


ELECTROMAGNET ASSEMBLY MOUNTED ON OXYGEN MASK STOWAGE COMPARTMENT
MASK COMPARTMENT DOOR LATCH
LATCH ADJUSTMENT
PERMANENT MAGNET ASSEMBLY MOUNTED ON OXYGEN MASK DOOR
E



MAGNETIC LATCH
USED ON AIRCRAFT 001-031



MAGNETIC LATCH
USED ON AIRCRAFT 032-999

M1-0000-35-5A5

R
R
Oxygen Compartment Door Latches
Figure 401

EFFECTIVITY: ALL

001B

PASSENGER OXYGEN MASK COMPARTMENT DOOR LATCH ASSEMBLY CLEANING AND PAINTING

1. Cleaning/Painting

WARNING: DO NOT APPLY ANY TYPE OF LUBRICANT TO OXYGEN DOOR LATCH MECHANISM.

A. Cleaning

(1) Remove particles trapped or lodged on electromagnetic pole piece with adhesive tape.

(2) Polish off any burrs or contamination found on pole pieces with burnishing tool.

R (3) Clean latch mechanism using isopropyl alcohol (Fed.
R Spec. TP-1-735 or equivalent) and dry using clean
R lint-free cloth.

SEQUENCE TIMER OXYGEN INITIATOR SWITCH - REMOVAL AND INSTALLATION

1. General

R The sequence timer oxygen switch is capable of dropping oxygen
R masks and initiating chemical generators throughout entire cabin area in approximately four (4) seconds.

2. Referenced Procedure

35-21-00 Passenger Oxygen System - Adjustment and Test

3. Removal/Installation

A. Removal

(1) On PASS OXYGEN section of pilots overhead circuit breaker panel CB1, zone 210, open and tag the following circuit breakers (Ref. Fig. 401):

NORMAL MASK (J15)

NORMAL GEN (J16)

OVERRIDE MASK (J17)

OVERRIDE GEN (J18)

(2) Open cabin right hand ceiling panel ,243DB, in front of galley lift, zone 240 (Ref. Fig. 401).

(3) Disconnect electrical connectors from sequence timer.

(4) Remove mounting screws holding sequence timer to mounting bracket.

B. Installation

(1) Verify circuit breakers opened in Step 3A(1) are open and tagged.

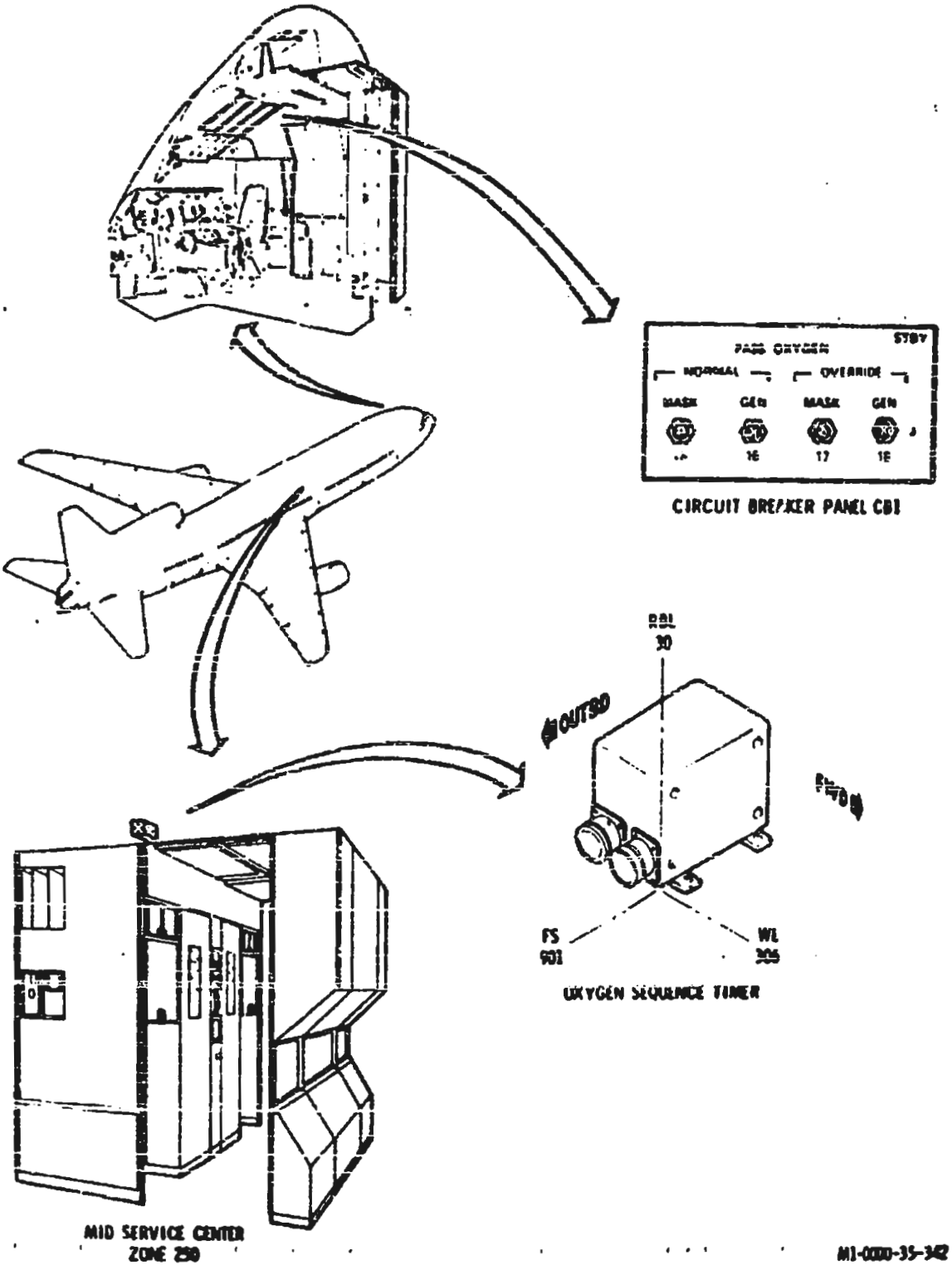
(2) Install sequence timer on mounting bracket with mounting screws.

(3) Connect electrical connectors to sequence timer.

(4) Close ceiling panel.

R (5) Remove tags and close circuit breakers opened in Step
R 3A(1).

(6) Perform BITE test to verify operation of passenger oxygen system (Ref. 35-21-00).



Sequence Timer Oxygen Initiator Switch - Removal and Installation
Figure 401

OXYGEN MASK STOWAGE RACK, CENTER PASSENGER SERVICE MODULE REMOVAL AND INSTALLATION

1. General

The oxygen mask stowage racks are not identical for all center
R passenger service modules (PSM). Except for connecting mask extractor lanyard, the removal and installation procedures are the same for all racks (Ref. Fig. 401).

2. Equipment and Materials

Protective caps

3. Referenced Procedures

35-21-00	Passenger Oxygen System - Adjustment and Test
35-21-04	Mask Door Latch - Removal and Installation
35-21-08	Oxygen Mask Stowage Rack, Center Passenger Service Module - Inspection and Check

4. Removal/Installation

A. Removal

(1) On PASS. OXYGEN section of pilots overhead circuit breaker panel CD1, zone 210, open and tag following circuit breakers:

NORMAL MASK (J15)

NORMAL GEN (J16)

OVERRIDE MASK (J17)

OVERRIDE GEN (J18)

CAUTION: CARE MUST BE TAKEN TO KEEP COMPONENTS AND EQUIPMENT CLEAN AND FREE FROM OIL, GREASE, DUST, AND MOISTURE.

(2) Retract forward panel support latches on PSM, and hinge panel downward and aft.

(3) Lower forward panel on adjacent aft PSM.

(4) Support forward end of module.

(5) Retract and lock module forward glide pin release knobs in detents.

(6) Release module forward shear pins from tracks, and allow forward end of module to drop far enough for access to air hose.

(7) Detach air hose.

(8) Allow forward end of module to drop to fully opened position to allow access to oxygen mask hoses.

(9) Disconnect oxygen mask hoses from oxygen generator manifold, and install protective caps on outlet ports.

(10) Release interlocking tape tabs (if used) at each end of stowage rack.

(11) Use a flat-bladed tool to pry locking tabs on rack from slots on PSM.

CR CR CAUTION: IF MASKS ARE DROPPED, REPLACE WITH PREPACKED STOWAGE RACK. DO NOT ATTEMPT TO WRAP MASKS OR LOAD RACKS.

(12) Rotate stowage rack on pivot lugs (identified by red arrow or red paint) far enough to gain access to mask tube clip on end of mask extractor lanyard.

NOTE: If rack is rotated too far, masks will be pulled out of rack.

(13) Remove clip from mask tube.

(14) Rotate stowage rack out of PSM. Allow spring-loaded, mask-retaining arm to rotate under masks to hold masks in rack.

B. Installation

WARNING: DO NOT APPLY ANY TYPE OF LUBRICANT TO OXYGEN DOOR LATCH MECHANISM. LATCH MAY BE CLEANED USING ISOPROPYL ALCOHOL (FED. SPEC. TP-I-735 OR EQUIVALENT) AND DRIED WITH A CLEAN LINT-FREE CLOTH.

CR CR CAUTION: IF MASKS ARE DROPPED, REPLACE WITH PREPACKED STOWAGE RACK. DO NOT ATTEMPT TO WRAP MASKS OR LOAD RACKS.

(1) Verify that circuit breakers opened in Step 4A(1) are open and tagged.

(2) On mask compartment door latch, verify that:

(a) Latch shoe is loose and moves freely.

(b) There is no foreign material present that could interfere with latch operation.

(c) Overtravel of latch plunger can be felt against internal spring.

(3) Latch compartment door by following instructions on decal on inside of door.

(4) Verify that mask compartment door is in latched position.

(a) Latch shoe is in contact with both magnet and coil.

(b) Hinges are engaged.

(c) Door outside surface is 0.00 to 0.05 inch outside surface of PSM (Ref. 35-21-04).

(d) Overtravel of latch striker can be felt by pressing at center of door opposite striker.

(e) Overtravel of latch plunger can be felt against internal spring.

NOTE: If mask compartment door is open, follow closing instructions on decal on inside of door.

(5) Verify condition of masks in racks as follows:

(a) Mask tubing snug about masks, covering bag.

(b) Masks not deformed.

(c) Masks nested within each other, not canted.

C (d) Clip stop on mask tube within 0.00 to 0.75 inch of
C edge of rack (Ref. Fig. 403). (Rack not installed in PSM).

(e) Latch guard smooth and secure to mask retaining arm.

(6) Insert pivot lugs on stowage rack into red identified slots in PSM.

(7) Pass lanyard between mask and mask retaining arm, and attach mask tube clip to tube above clip stop (Ref. Fig. 403).

(8) Verify dimension between clip stop (bottom edge of clip) and edge of rack (0.00 to 0.75 inch - Sta Dimen.).

C
C

NOTE: Mask may be rotated in rack to attain correct dimension between clip stop and edge of rack. Tube coils must lay flat and masks must not be distorted.

(9) Verify that mask-retaining arm is engaged on positioning ramps at each end of rack opening in PSM.

(10) Rotate rack into PSM so that it seats correctly, and locking tabs engage in slots in PSM.

NOTE: Mask-retaining arm is forced to rotate from under masks as rack is rotated into position.

(11) Attach interlocking tape (if used) at each end of rack.

(12) Remove protective caps from generator outlet ports and connect oxygen mask tubes to oxygen generator manifold. Engagement of tubes over manifold outlets to be 0.25 inch minimum (during installation).

C

(13) Visually inspect installation to ensure following:

(a) Retaining arm is rotated from under masks and positioned under edge of rack.

(b) Retaining arm is clear of mask tubes and lanyard assembly.

(c) Lanyard clipped to correct mask tube and positioned correctly with reference to oxygen mask (Ref.Fig. 402).

(d) Lanyard not wrapped around retaining arm.

(e) Latch guard hangs smoothly over latch.

(f) Mask tube clip is snug against clip stop and located at correct distance from rack edge (Ref. Fig. 402).

(g) Mask tube locking sleeve is snug in tube outlet.

(14) Close PSM far enough to connect air hose, then close fully.

(15) Slide PSM backward to its correct position and slide shear pin into track.

(16) Close both PSM front panels.

(17) Remove tags and close circuit breakers opened in Step 4A(1).

(18) Perform BITE test to verify operation of oxygen system (Ref. 35-21-00).

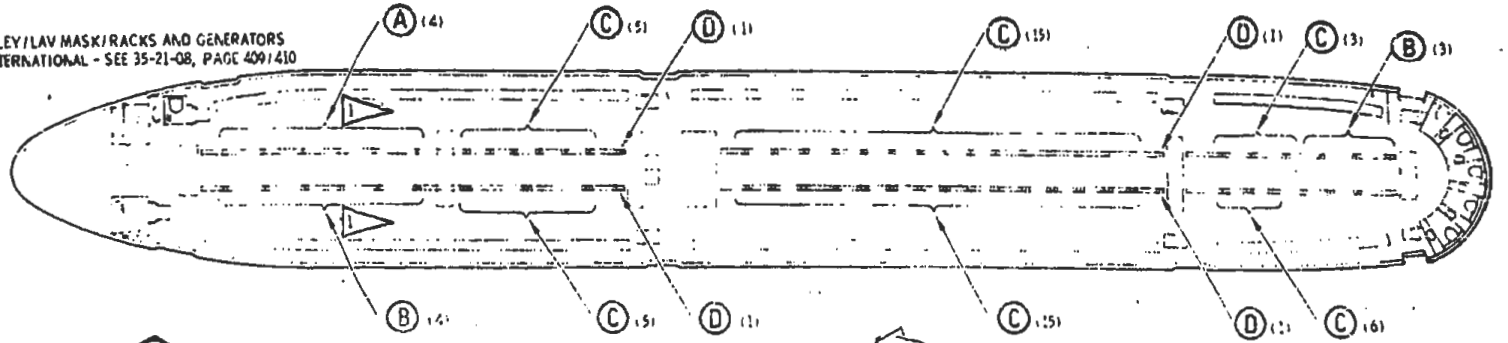
NOTE: BITE test is not required after replacement of mask/rack assembly, due to inadvertent door opening, provided that:

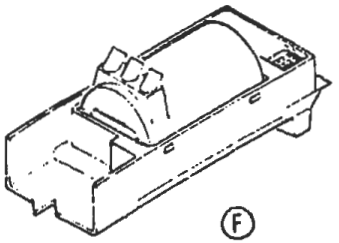
(1) Problem is totally non-electrical.

(2) No chemical oxygen generator fired.

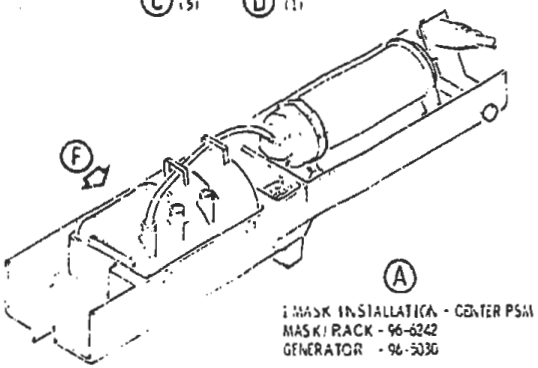
(3) No mask door latch replaced.

NOTE
OB/CA/GALLEY/LAV MASK/RACKS AND GENERATORS
SAME AS INTERNATIONAL - SEE 35-21-08, PAGE 409/410

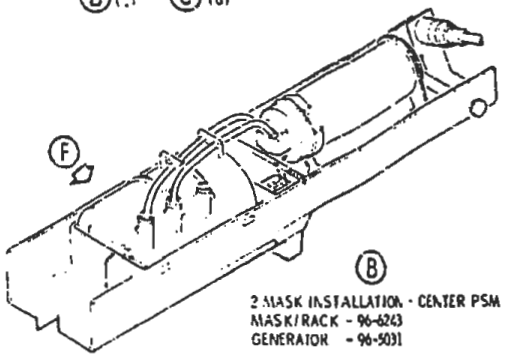




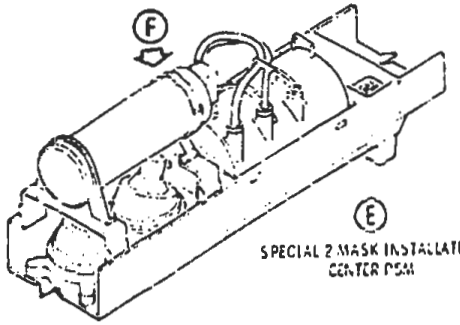
(F)
ALTERNATE MASK STOWAGE RACK CONFIGURATION.



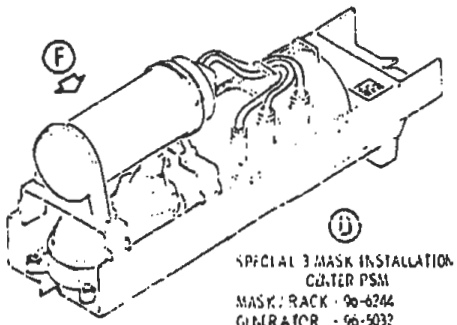
(A)
1 MASK INSTALLATION - CENTER PSM
MASK/RACK - 96-6242
GENERATOR - 96-5030



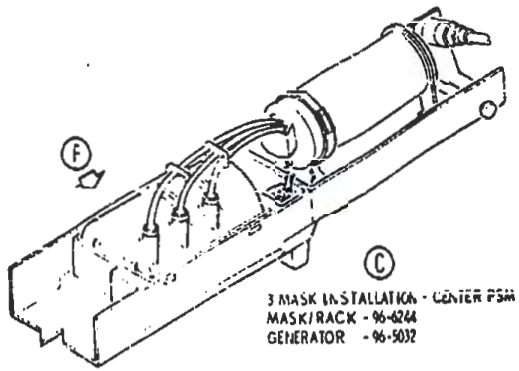
(B)
2 MASK INSTALLATION - CENTER PSM
MASK/RACK - 96-6243
GENERATOR - 96-5031



(E)
SPECIAL 2 MASK INSTALLATION CENTER PSM



(D)
SPECIAL 3 MASK INSTALLATION CENTER PSM
MASK/RACK - 96-6244
GENERATOR - 96-5032



(C)
3 MASK INSTALLATION - CENTER PSM
MASK/RACK - 96-6244
GENERATOR - 96-5032

NOTE
1 SPARE PSM NOT EQUIPPED WITH OXYGEN, DO NOT CONNECT ELECTRICAL HARNESS

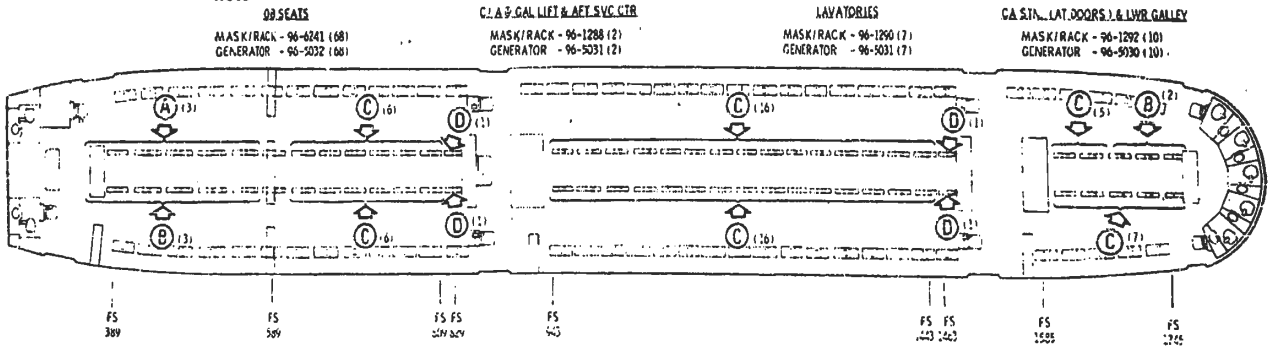
MI-0002-35-584

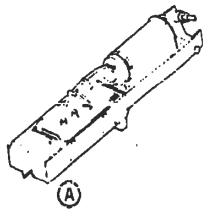
CR
CR

Passenger Oxygen Center PSM Location Diagram
Figure 401

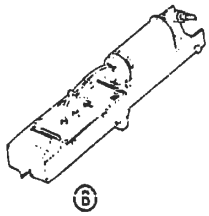
EFFECTIVITY: DOMESTIC CONFIGURATION

NOTE

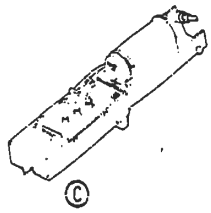




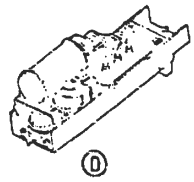
1 MASK INSTALLATION
CENTER PSM
MASK/RACK - 96-6242
GENERATOR - 96-5030



2 MASK INSTALLATION
CENTER PSM
MASK/RACK - 96-6243
GENERATOR - 96-5031



3 MASK INSTALLATION
CENTER PSM
MASK/RACK - 96-6244
GENERATOR - 96-5032



SPECIAL 3 MASK INSTALLATION
CENTER PSM
MASK/RACK - 96-6244
GENERATOR - 96-5032

NOTE

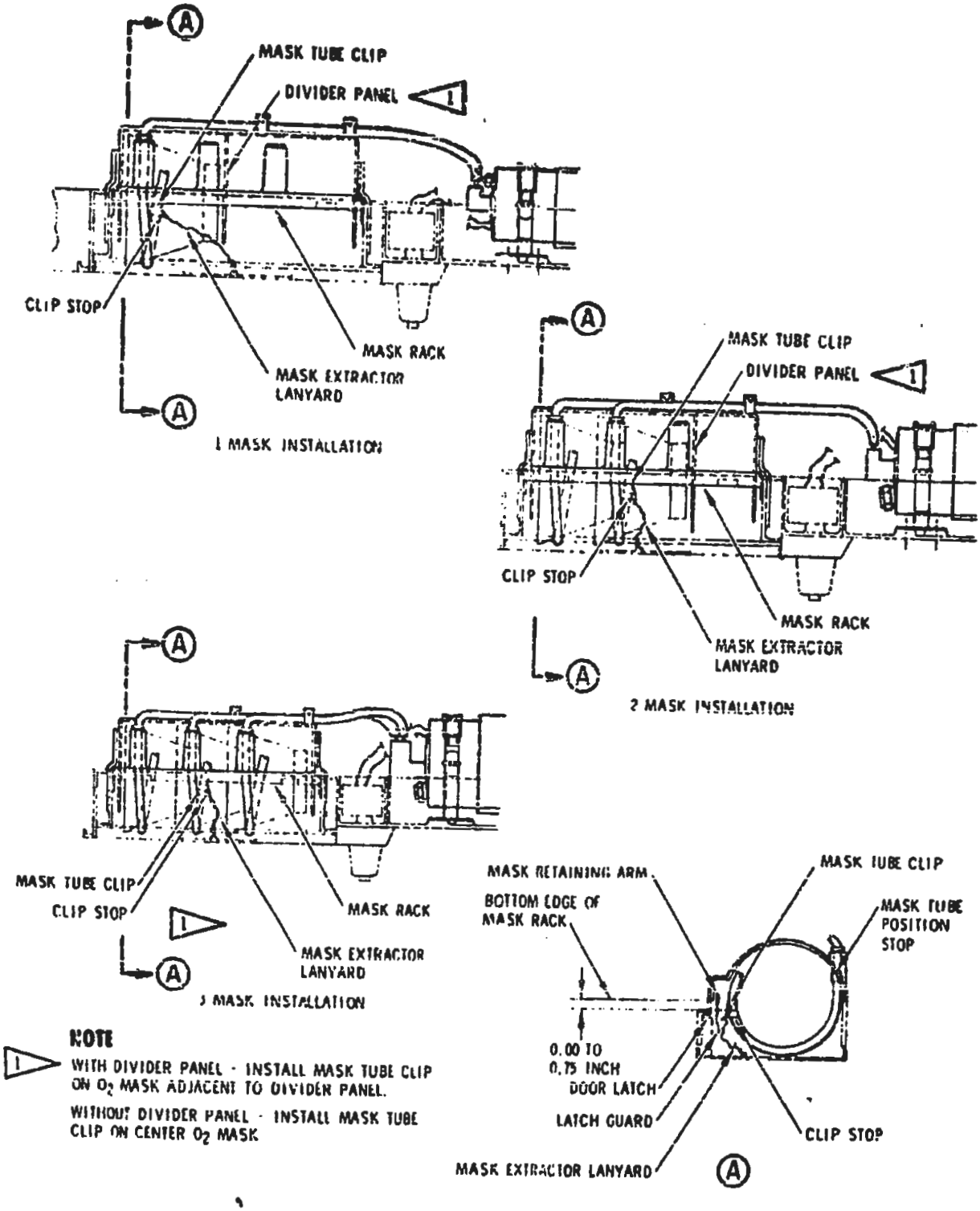
1 CABIN CONFIGURATION IS FOR 30 FIRST CLASS,
251 ECONOMY - AIRCRAFT 032-999

MI-0001-35-567

CR Passenger Oxygen Center PSM Location Diagram
CR Figure 401

EFFECTIVITY: INTERNATIONAL CONFIGURATION

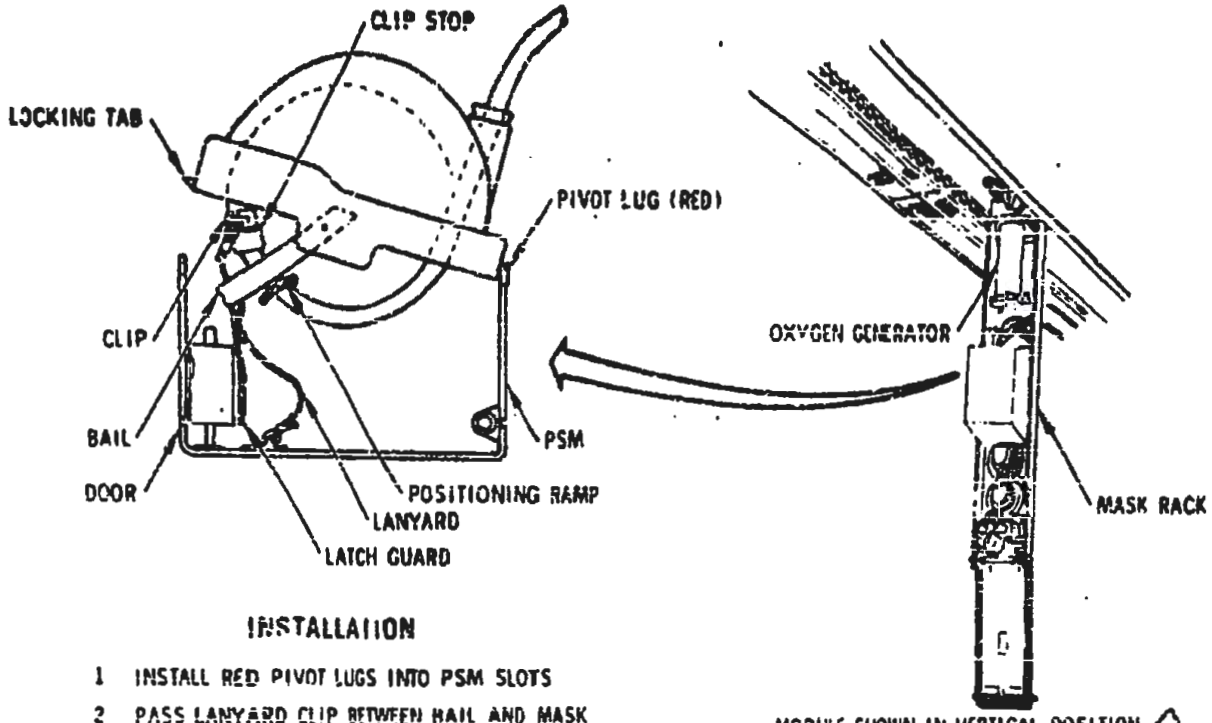
001B



CR Oxygen Mask Stowage Rack - Removal and Installation
CR Figure 402

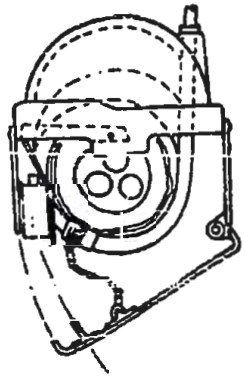
EFFECTIVITY: ALL

001B

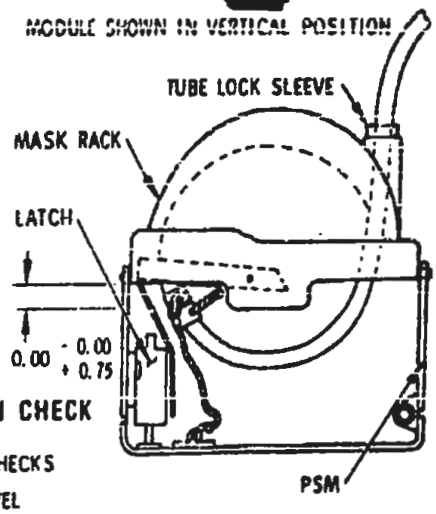


INSTALLATION

1 INSTALL RED PIVOT LUGS INTO PSM SLOTS
2 PASS LANYARD CLIP BETWEEN RAIL AND MASK
3 ATTACH CLIP AGAINST TOP OF STOP ON THE MASK
4 ROTATE RACK TO ENGAGE LOCKING TABS
5 CONNECT MASK TUBES TO GENERATOR OUTLETS -0.25 MIN. ENGAGEMENT



MASKS MUST BE WRAPPED AND INSTALLED TO UNROLL AS DOOR OPENS



VERIFICATION CHECK

1 LOCKING TABS CHECKS
2 BAIL UP AND LEVEL
3 LATCH GUARD SMOOTH AND OVER LATCH
4 LANYARD CLIP TO PROPER MASK, DIRECTION AND DISTANCE
5 OXY. MASKS EVEN, NO BULGES AND TUBES WRAPPED TIGHTLY
6 TUBE ROUTING TO GENERATOR - 0.25 MIN. ENGAGEMENT
7 GENERATOR CONDITION GOOD AND HOOKED UP ELECTRICALLY

M1-92000-35-314

Oxygen Mask Stowage Rack - Installation and Verification Check
Figure 403

OXYGEN MASK STOWAGE RACK, CENTER PASSENGER SERVICE MODULE INSPECTION AND CHECK

1. General

R This procedure outlines steps to be performed to check condition
R of oxygen mask installation in the center passenger service
R module (PSM) and is applicable to special configurations with
R oxygen generator mounted over reading lights.

R NOTE: This procedure may be performed concurrently with
R inspection of chemical oxygen generator (Ref. 35-21-02).

2. Referenced Procedures

35-21-02 Fixed Chemical Oxygen Generator - Inspection and Check

35-21-08 Oxygen Mask Stowage Rack, Center Passenger Service Module - Removal and Installation

3. Inspection/Check

CAUTION: IF MASKS ARE ACCIDENTALLY DROPPED, REPLACE WITH PREPACKED STOWAGE RACK (Ref. 35-21-08). DO NOT ATTEMPT TO WRAP MASKS IN AIRCRAFT.

A. Inspection

(1) Retract forward panel support latches on center PSM and hinge panel downward and aft.

(2) Lower forward panel on adjacent aft PSM.

(3) Support forward end of module.

(4) Retract module forward glide pin release knobs and lock in detents.

(5) Release module forward shear pins from tracks and allow forward end of module to drop far enough for access to air hose.

(6) Detach air hose.

(7) Allow forward end of module to drop to fully opened position to expose oxygen mask stowage rack.

(8) Visually inspect mask stowage rack installation to verify the following (Ref. Fig. 601 and 602):

(a) Mask tubes coiled neatly and snugly around masks.

(b) Mask tubes cover bag, with no corners of bag protruding.

(c) Masks not excessively deformed (where edges are folded over).

(d) Masks nested within each other, not canted or lumpy.

(e) Masks correctly oriented in racks so that mask extractor lanyard can pull mask from rack and unroll mask tube in same direction as door swing.

(f) Mask retaining arm in up position along edge of rack above latch.

(g) Latch guard lies smoothly over latch.

(h) Mask extractor lanyard positioned between mask retaining arm and masks, not over arm.

(i) Mask tube clip attached to correct mask tube, above clip stop. Clip must be visible when viewed from top edge of rack.

(j) Pivot lugs inserted and locking tabs engaged in slots in PSM.

(k) Interlocking tape (if used) attached at each end of rack.

(l) Mask tubes connected to oxygen generator manifold C and minimum engagement of 0.18 inch.

CAUTION: INSPECT OXYGEN MASK HOSES FOR POSSIBLE HEAT DAMAGE WHENEVER AN ADJACENT LUMINAIRE BALLAST FAILS OR THE OXYGEN GENERATOR IS INADVERTENTLY FIRED.

(m) No obvious deterioration of masks or tubes.

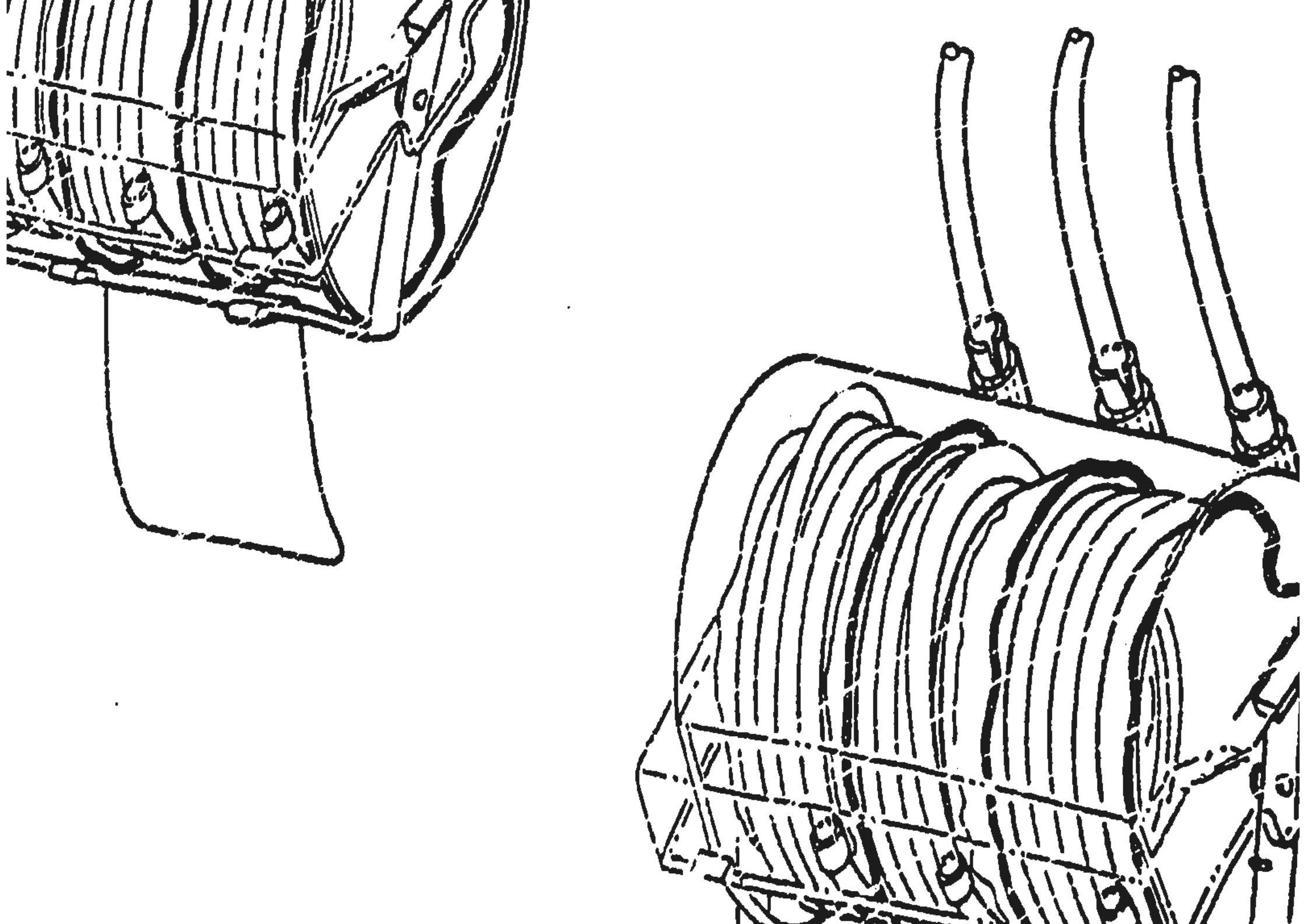
(n) Electrical connector securely connected.

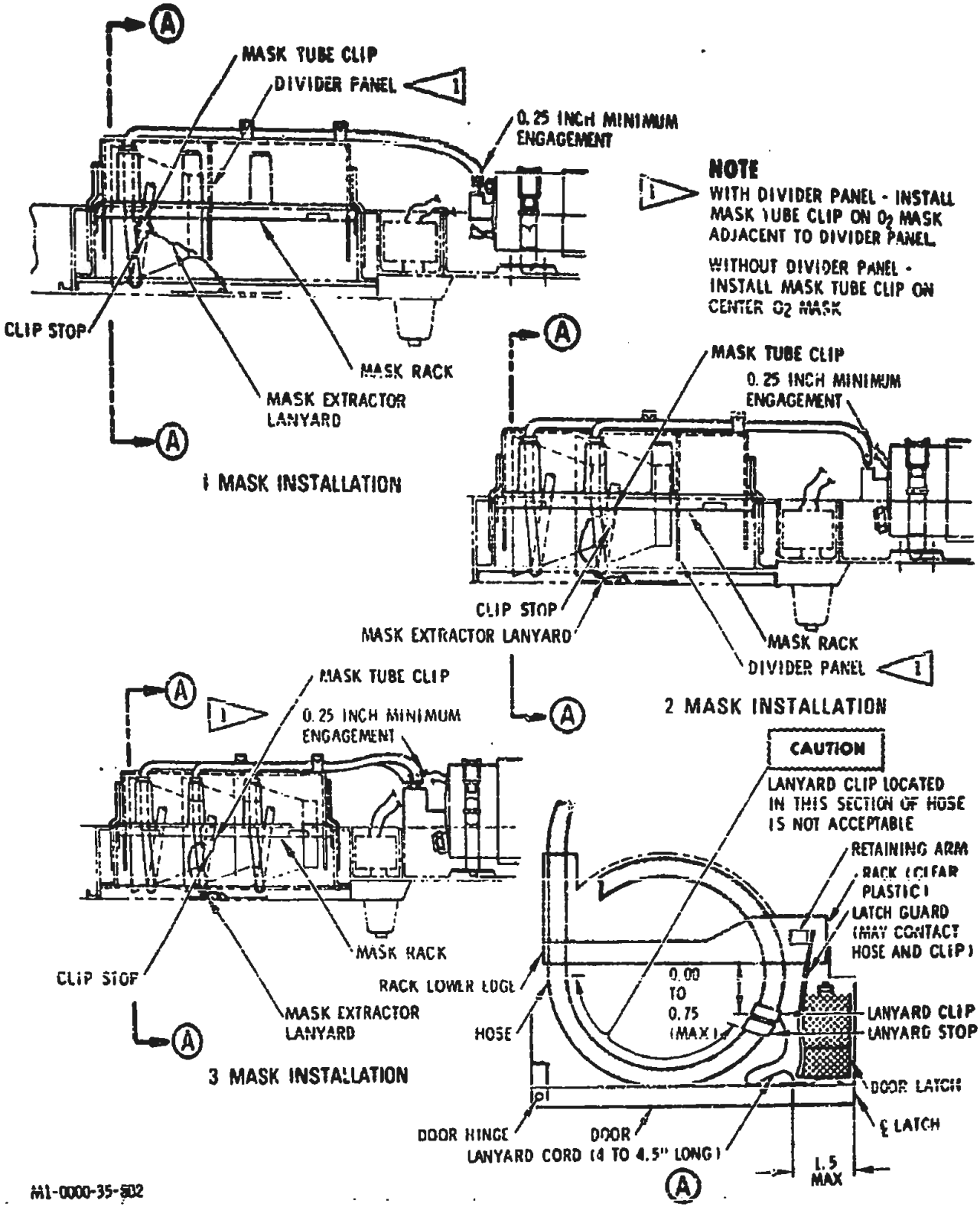
CAUTION: VERIFY THAT THE OXYGEN MASK HOSES ARE PROPERLY STOWED, BEFORE CLOSING PSM, TO PREVENT POSSIBLE HEAT DAMAGE CAUSED BY A FAILED LUMINAIRE BALLAST OR INADVERTENT FIRING OF THE OXYGEN GENERATOR.

(9) Close PSM far enough to connect air hose, then close fully.

(10) Slide PSM backward to its correct position and slide shear pin into track.

(11) Close both PSM front panels.

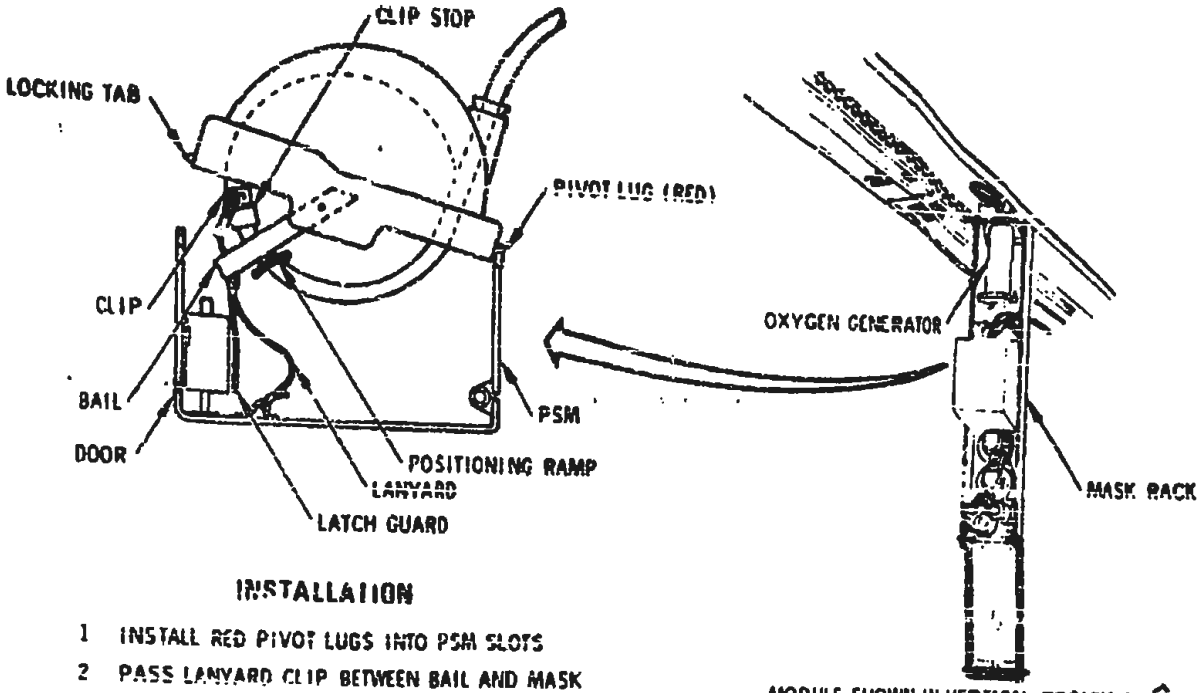




CR CR Oxygen Mask Stowage Rack Installation - Center PSM
Figure 602

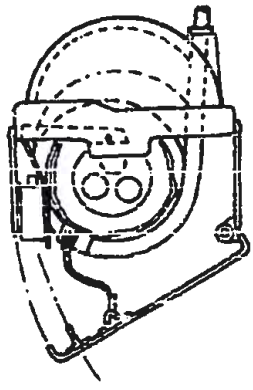
EFFECTIVITY: ALL

001B

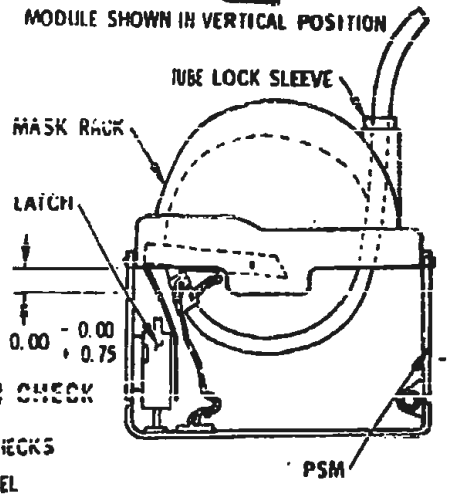


INSTALLATION

1 INSTALL RED PIVOT LUGS INTO PSM SLOTS
2 PASS LANYARD CLIP BETWEEN BAIL AND MASK
3 ATTACH CLIP AGAINST TOP OF STOP ON THE MASK
4 ROTATE RACK TO ENGAGE LOCKING TABS
5 CONNECT MASK TUBES TO GENERATOR OUTLETS -0.25 MIN. ENGAGEMENT



MASKS MUST BE WRAPPED AND INSTALLED TO UNROLL AS DOOR OPENS



VERIFICATION CHECK

1 LOCKING TABS CHECKS
2 BAIL UP AND LEVEL
3 LATCH GUARD SMOOTH AND OVER LATCH
4 LANYARD CLIP TO PROPER MASK, DIRECTION AND DISTANCE
5 OXY. MASKS EVEN, NO BULGES AND TUBES WRAPPED TIGHTLY
6 TUBE ROUTING TO GENERATOR - 0.25 MIN. ENGAGEMENT
7 GENERATOR CONDITION GOOD AND HOOKED UP ELECTRICALLY

MI-92000-35-314

R R Oxygen Mask Stowage Rack - Inspection and Check
Figure 603

R R 001B EFFECTIVITY: ALL

OXYGEN MASK STOWAGE RACK, OUTBOARD PASSENGER SERVICE MODULE REMOVAL AND INSTALLATION

1. General

R Removal and installation procedures are the same for all oxygen mask stowage racks installed in outboard passenger service modules (PSM) (Ref. Fig. 401).

2. Equipment and Materials

Protective caps

3. Referenced Procedures

35-21-00	Passenger Oxygen System - Adjustment and Test
35-21-04	Mask Door Latch - Removal and Installation
35-21-10	Lavatories, Cabin Attendants, and Food Service Specialists Mask Racks - Removal and Installation

4. Removal/Installation

A. Removal

(1) On PASS. OXYGEN section of pilots overhead circuit breaker panel CB1, zone 210, open and tag the following circuit breakers:

NORMAL MASK (J15)

NORMAL GEN (J16)

OVERRIDE MASK (J17)

OVERRIDE GEN (J18)

CAUTION: CARE MUST BE TAKEN TO KEEP COMPONENTS AND EQUIPMENT CLEAN AND FREE FROM OIL, GREASE, DUST, AND MOISTURE.

(2) Retract forward panel support latches on PSM, and hinge panel downward and aft.

(3) Lower forward panel on adjacent aft PSM.

(4) Support end of module.

(5) Retract and lock module forward glide pin release knobs in detents.

(6) Release module forward shear pins from tracks and allow forward end of module to drop far enough for access to air hose. Detach PSM secondary support lanyard (if installed).

(7) Detach air hose.

(8) Allow forward end of module to drop to fully opened position to allow access to oxygen mask hoses.

(9) Disconnect oxygen hoses from oxygen generator manifold and install protective caps on outlet ports.

(10) Release interlocking tape tabs (if used) at each end of stowage rack.

(11) Use a flat-bladed tool to pry locking tabs on rack from slots on PSM.

CAUTION: IF MASKS ARE DROPPED, REPLACE WITH PREPACKED STOWAGE RACK. DO NOT ATTEMPT TO WRAP MASKS IN AIRCRAFT.

(12) Rotate stowage rack on pivot lugs (identified by red arrow or red paint) far enough to gain access to mask tube clip on end of mask extractor lanyard.

NOTE: If rack is rotated too far, masks will be pulled out of rack.

(13) Remove clip from mask tube.

(14) Rotate stowage rack out of PSM. Allow spring-loaded, mask-retaining arm to rotate under masks to hold masks in rack.

B. Installation

WARNING: DO NOT APPLY ANY TYPE OF LUBRICANT TO OXYGEN DOOR LATCH MECHANISM. LATCH MAY BE CLEANED USING ISOPROPYL ALCOHOL (FED. SPEC. TP-1-735 OR EQUIVALENT) AND DRIED WITH A CLEAN LINT-FREE CLOTH.

CAUTION: IF MASKS ARE DROPPED, REPLACE WITH PREPACKED STOWAGE RACK. DO NOT ATTEMPT TO WRAP MASKS OR LOAD RACKS.

C
C

(1) Verify that circuit breakers opened in Step 4A(1) are open and tagged.

(2) On mask compartment door latch verify that latch is operable.

(a) Latch shoe is loose and moves freely.

(b) There is no foreign material present that could interfere with latch operation.

(c) Overtravel of latch plunger can be felt against internal spring.

(3) Latch compartment door by following instructions on decal on inside of door.

(4) Verify that mask compartment door is in latched position.

(a) Latch shoe is in contact with both magnet and coil.

(b) Hinges are engaged.

(c) Door outside surface is 0.00 to 0.05 inch outside surface of PSM (Ref. 35-21-04).

(d) Overtravel of latch striker can be felt by pressing at center of door opposite striker.

(e) Overtravel of latch plunger can be felt against internal spring.

NOTE: If mask compartment door is open, follow instructions on decal on inside of door to close.

(5) Verify condition of masks in rack as follows:

(a) Mask tubing snug about masks, covering bag.

(b) Masks not deformed.

(c) Mask nested within each other, not canted.

CR (d) Clip stop on mask within 0.00 to 0.75 inch of edge of rack. (Rack not installed in PSM).

(e) Latch guard smooth and secure to mask retaining arm.

(6) Insert pivot lugs on stowage rack into red identified slots in PSM.

(7) Pass mask extractor lanyard between mask and mask retaining arm and attach mask tube clip to tube above clip stop (Ref. Fig. 402).

(8) Verify dimension between clip stop and edge of rack (0.00 to 0.75 inch).

NOTE: Masks may be rotated in rack to attain correct dimension between clip stop and edge of rack. Tube coils must lay flat and masks must not be distorted.

(9) Verify that mask-retaining arm is engaged on positioning ramps at each end of rack opening in PSM.

(10) Rotate rack into PSM so that it seats correctly and locking tabs engage in slots in PSM.

NOTE: Mask-retaining arm is forced to rotate from under masks as rack is rotated into position.

(11) Attach interlocking tape (if used) at each end of rack.

(12) Remove protective caps from generator outlet ports and connect oxygen mask tubes to oxygen generator manifold. Engagement of tubes over manifold outlets to be 0.25 inch minimum (at installation).

(13) Visually inspect installation to ensure following:

(a) Retaining arm is rotated from under masks and positioned under edge of rack.

(b) Retaining arm is clear of mask tube(s) and lanyard assembly.

(c) Lanyard clipped to correct mask tube and positioned at open side of oxygen mask (Ref. Fig. 402).

(d) Lanyard not wrapped around retaining arm.

(e) Latch guard hangs smoothly over latch.

(f) Mask tube clip is snug against clip stop and located at correct distance from rack edge.

(g) Mask tube locking sleeve is snug in tube outlet.

(14) Close PSM far enough to connect air hose and PSM support lanyard (if installed), then close fully.

(15) Slide PSM backward to its correct position and slide shear pin into track.

(16) Close both PSM front panels.

(17) Remove tags and close circuit breakers opened in Step 4A(1).

(18) Perform BITE test to verify operation of oxygen system (Ref. 35-21-00).

NOTE: BITE test is not required after replacement of mask/rack assembly, due to inadvertent door opening, provided that:

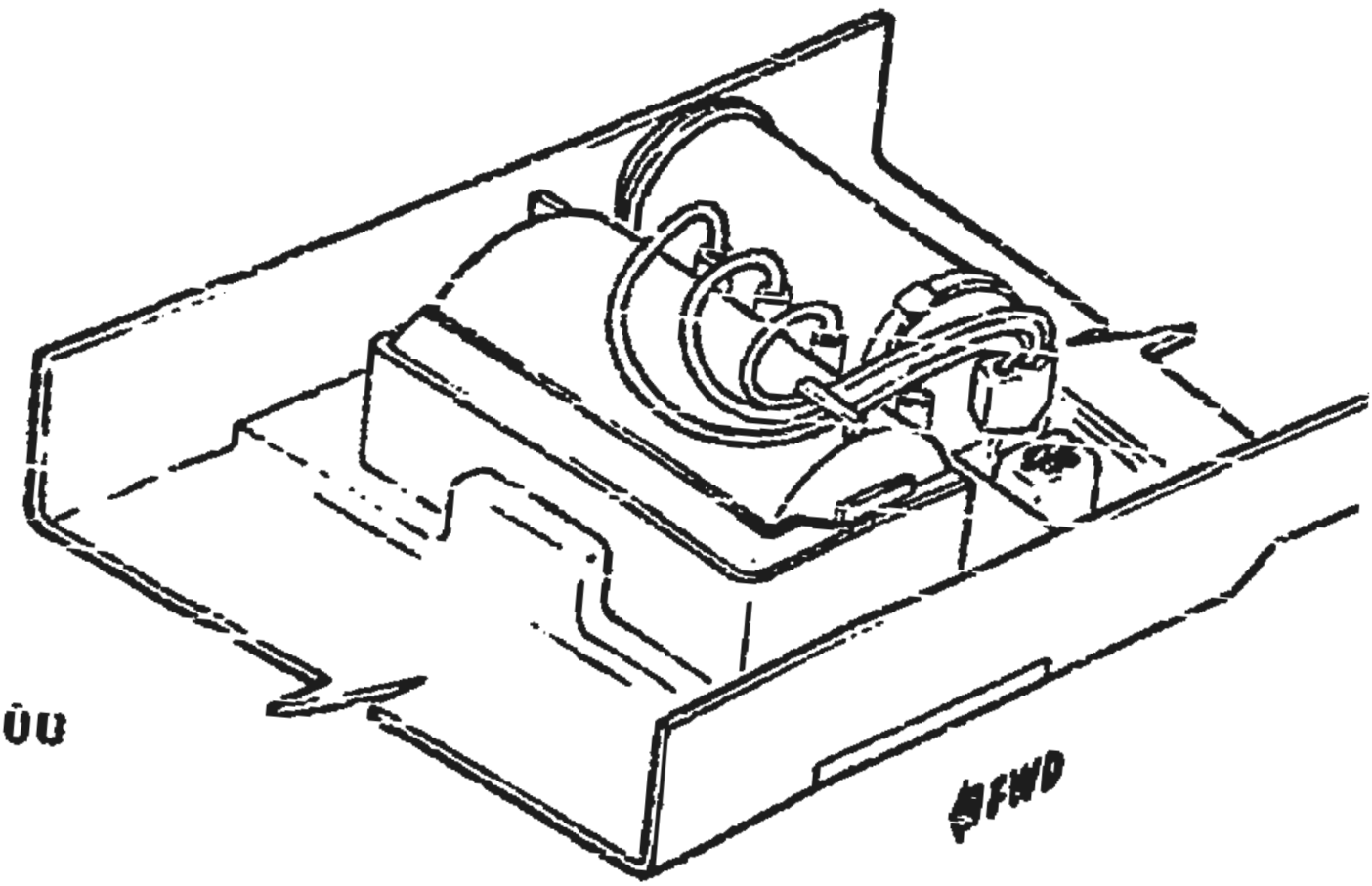
(1) Problem totally non-electrical.

(2) No chemical oxygen generator fired.

(3) No mask door latch replaced.

(D) 5 PI

(D) 5 PI



NE 200

(A)

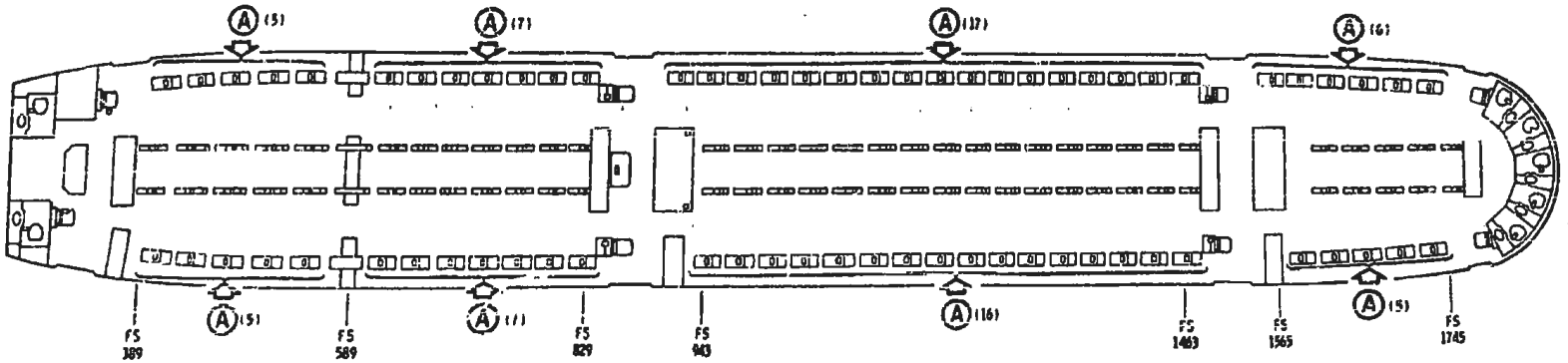
(A) 14 PI

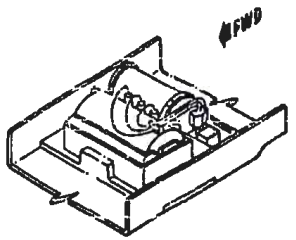
3 MASK INSTALLATION

(A) 6 PI

NOTE:

1. NO OXYGEN MASKS OR GENERATORS INSTALLED ABOVE AUX BARS (3 PL) OR BAG RACKS (2 PL)
2. EXTRA PSMs ON SOME AIRCRAFT. NO OXYGEN MASKS OR GENERATOR INSTALLED,





A
3 MASK INSTALLATION

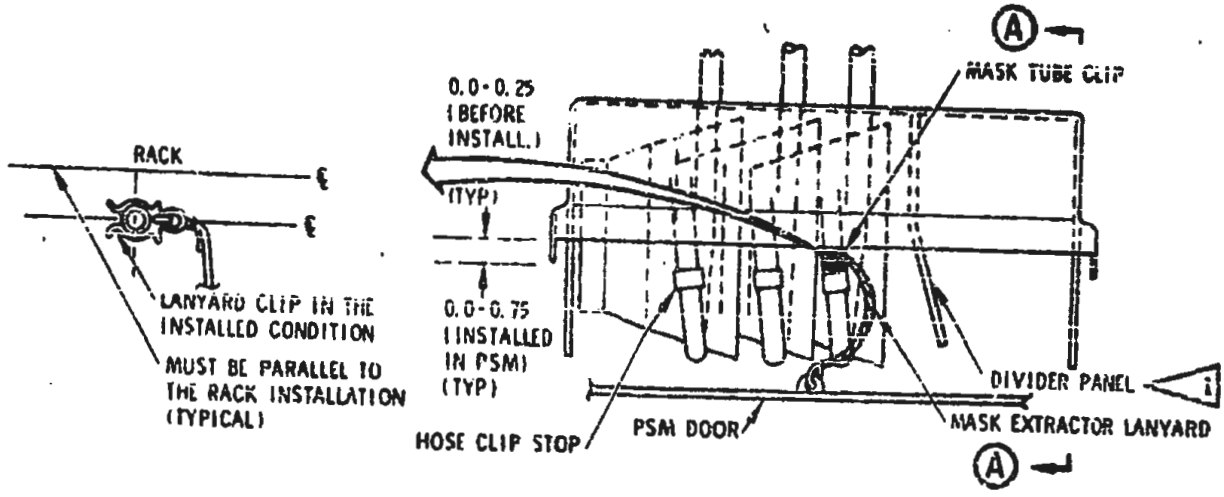
NOTE
1 CABIN CONFIGURATION IS FOR 30 FIRST CLASS, 251 ECONOMY CLASS - AIRCRAFT 032-999

M1-0000-35-549

R
R
Passenger Oxygen Outboard PSM Location Diagram
Figure 401

EFFECTIVITY: 032-999

0018

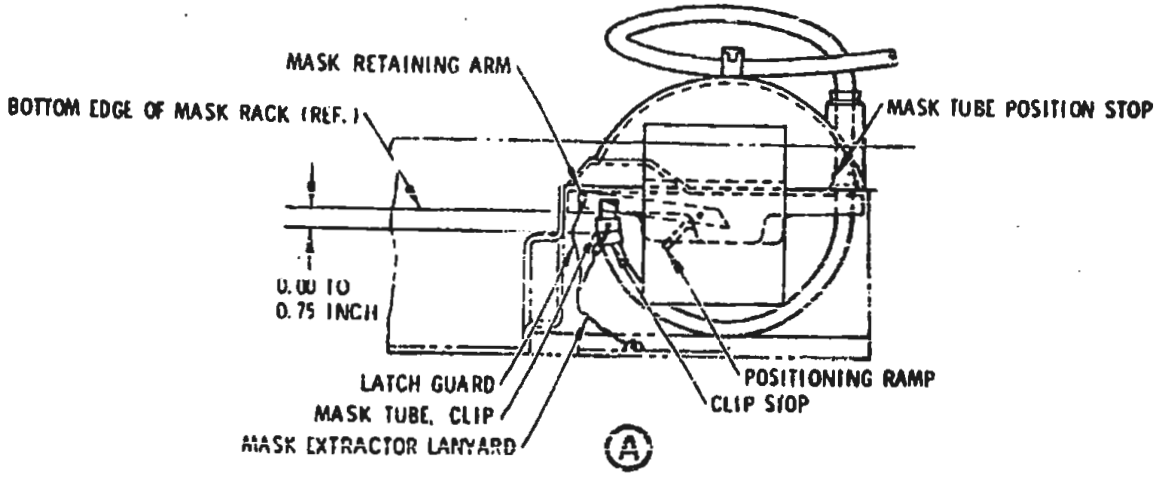


"3 MASK" PSM

NOTE

1. WITH DIVIDER PANEL - INSTALL MASK TUBE CLIP ON O_2 MASK ADJACENT TO DIVIDER PANEL.

   WITHOUT DIVIDER PANEL - INSTALL MASK TUBE CLIP ON O_2 MASK



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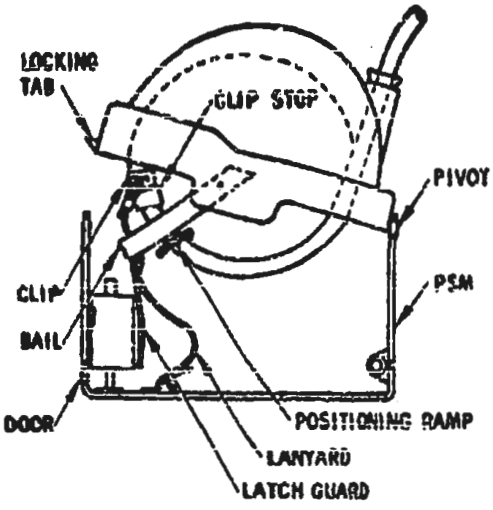
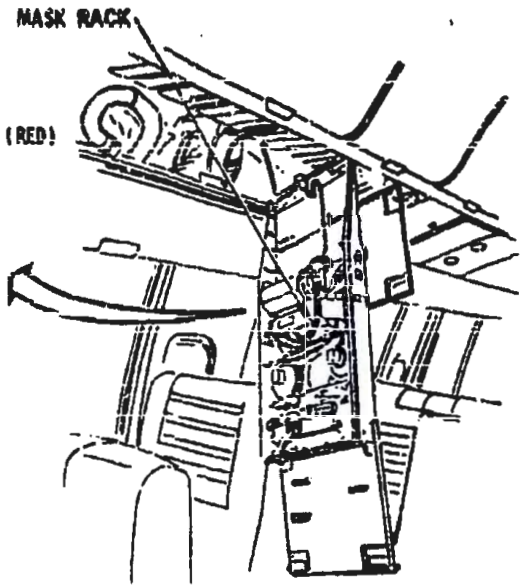
CR Oxygen Mask Stowage Rack - Removal and Installation
CR Figure 402

EFFECTIVITY: ALL

001B

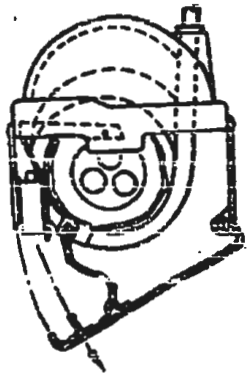




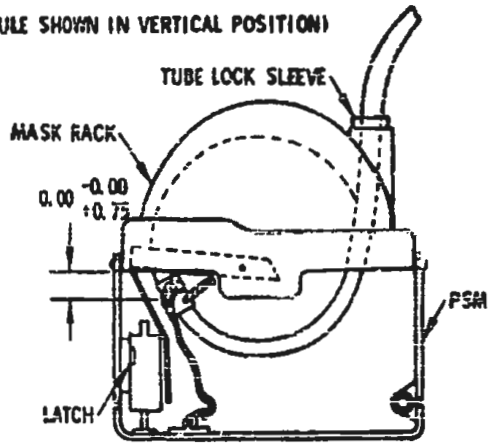
(MODULE SHOWN IN VERTICAL POSITION)

INSTALLATION

1 INSTALL RED PIVOT LUGS INTO PSM SLOTS
2 PASS LANYARD CLIP BETWEEN BAIL AND MASK
3 ATTACH CLIP AGAINST TOP OF STOP ON THE MASK
4 ROTATE RACK TO ENGAGE LOCKING TABS
5 CONNECT MASK TUBES TO GENERATOR OUTLETS -0.25 MIN. ENGAGEMENT



MASKS MUST BE WRAPPED AND INSTALLED TO UNROLL AS DOOR OPENS



VERIFICATION CHECK

1 LOCKING TABS CHECKED
2 RAIL UP AND LEVEL
3 LATCH GUARD SMOOTH AND OVER LATCH
4 LANYARD CLIP TO PROPER MASK, DIRECTION AND DISTANCE
5 OXYGEN MASKS EVEN, NO BULGES AND TUBES WRAPPED TIGHTLY
6 TUBE ROUTING TO GENERATOR -0.25 MIN. ENGAGEMENT
7 GENERATOR CONDITION GOOD AND HOOKED UP ELECTRICALLY

R R Oxygen Mask Stowage Rack - Installation and Verification Check
Figure 403

R EFFECTIVITY: ALL
R
001B

OXYGEN MASK STOWAGE RACK, OUTBOARD PASSENGER SERVICE MODULE INSPECTION AND CHECK

1. General

This procedure outlines steps to be performed to check condition of oxygen mask installation in outboard passenger service module (PSM).

NOTE: This procedure may be performed concurrently with inspection of chemical oxygen generator (Ref. 35-21-02).

2. Referenced Procedures

35-21-02 Fixed Chemical Oxygen Generator - Inspection and Check

R 35-21-09 Oxygen Mask Stowage Rack, Outboard Passenger Service Module - Removal and Installation

3. Inspection/Check

CAUTION: IF MASKS ARE ACCIDENTALLY DROPPED, REPLACE WITH PREPACKED STOWAGE RACK (REF. 35-21-09). DO NOT
C ATTEMPT TO WRAP MASKS OR LOAD RACKS IN AIRCRAFT.

A. Inspection

(1) Retract forward panel support latches on outboard passenger service module and hinge panel downward and aft.

(2) Lower forward panel on adjacent aft PSM.

(3) Support forward end of module.

(4) Retract module forward glide pin release knobs and lock in detents.

(5) Release module forward shear pins from tracks and allow forward end of module to drop far enough for access to air hose. Detach PSM secondary support lanyard (if installed).

(6) Detach air hose.

(7) Allow forward end of module to drop to fully opened position to expose oxygen mask stowage rack.

(8) Visually inspect mask stowage rack installation to verify the following (Ref. Fig. 601 and 602):

(a) Mask tubes coiled neatly and snugly around masks.

(b) Mask tubes cover bag, with no corners of bag protruding.

(c) Masks not excessively deformed (where edges are folded over).

(d) Masks nested within each other, not canted or lumpy.

(e) Masks correctly oriented in racks so that mask extractor lanyard can pull mask from rack and unroll mask tube in same direction as door swing (Ref. Fig. 603).

(f) Mask retaining arm in up position along edge of rack above latch.

(g) Latch guard lies smoothly over latch.

(h) Mask extractor lanyard positioned between mask retaining arm and masks, not over arm (Ref. Fig. 603).

(i) Mask tube clip attached to correct mask tube, above clip stop with lanyard positioned at open side of oxygen mask (Ref. Fig. 602).

(j) Pivot lugs inserted and locking tabs engaged in slots in PSM.

(k) Interlocking tape (if used) attached at each end of rack.

C (l) Mask tubes connected to oxygen generator manifold and minimum engagement of 0.18 inch.

(m) No obvious deterioration of masks or tubes.

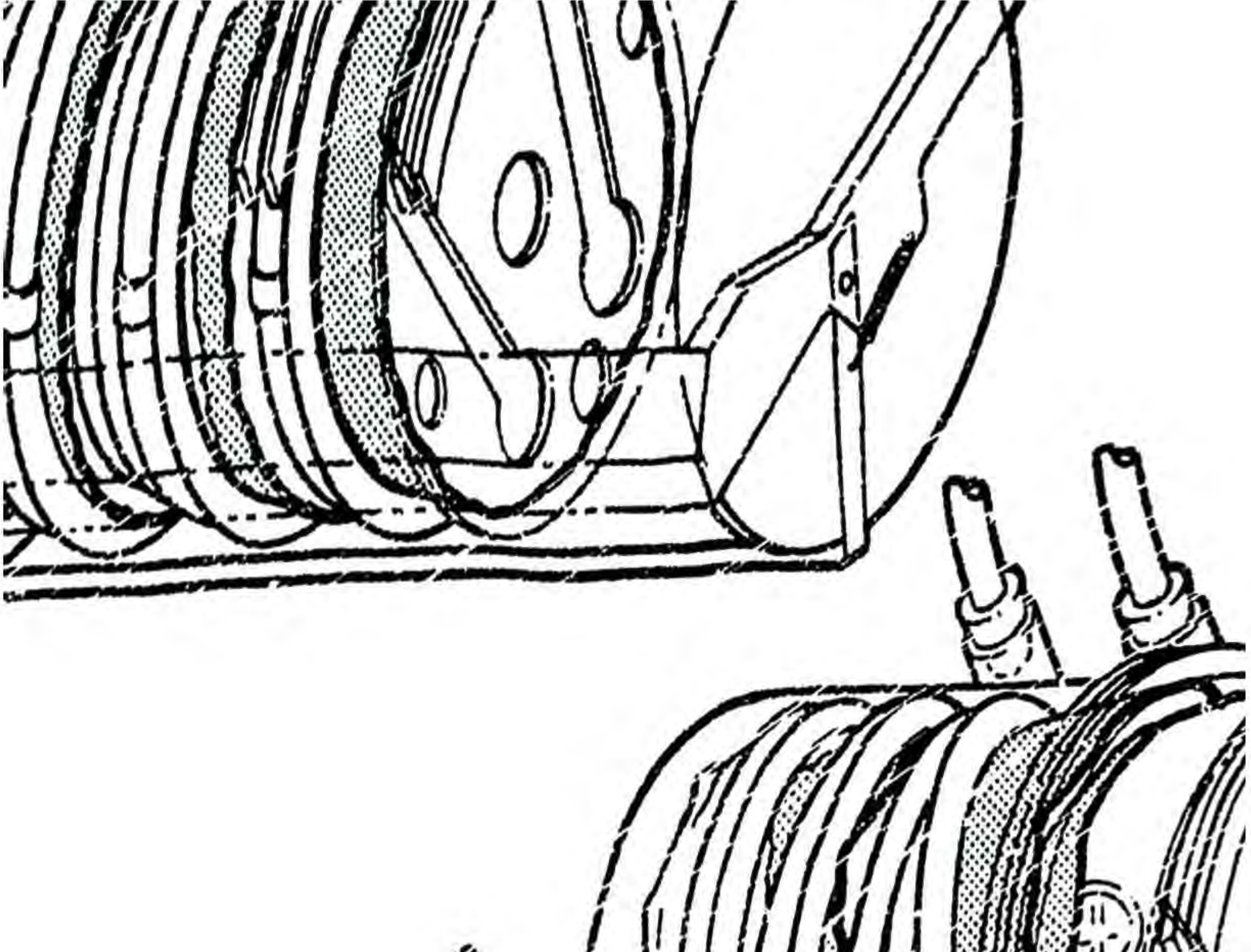
(n) Electrical connector securely connected.

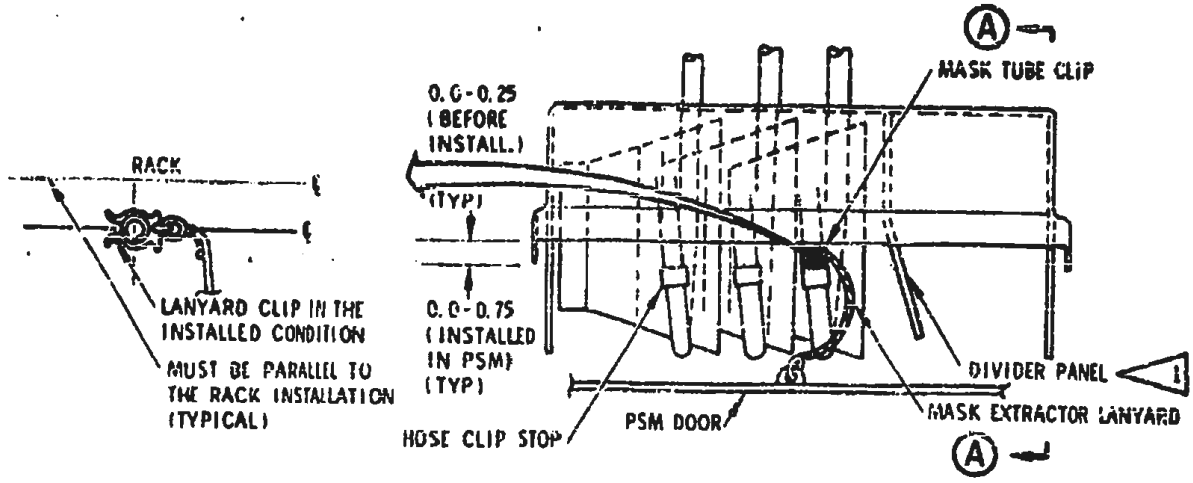
(9) Close PSM far enough to connect air hose and PSM support lanyard (if installed), then close fully.

C CAUTION: TWISTING OF PSM CAN CAUSE LOCKING TABS TO
C DISENGAGE.

(10) Slide PSM backward to its correct position and slide shear pin into track.

(11) Close both PSM front panels.



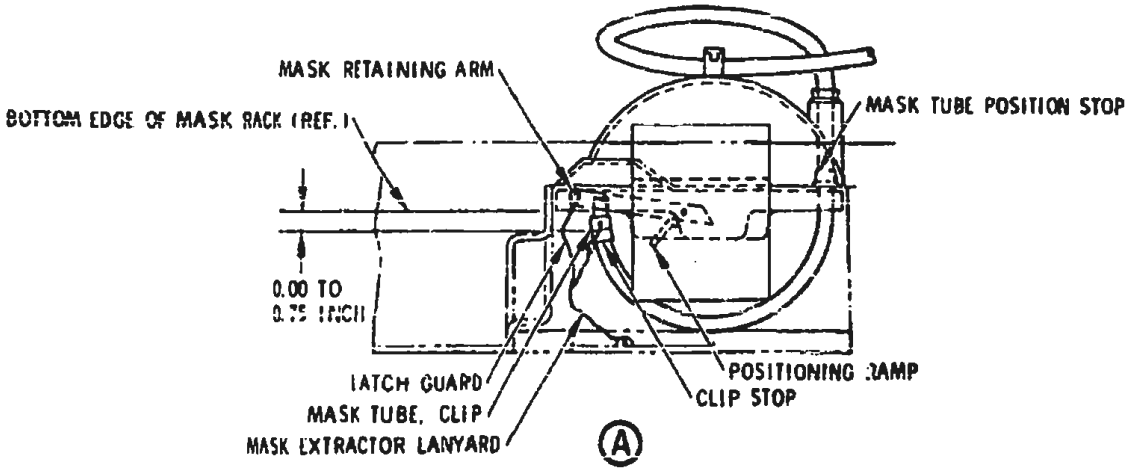


"3 MASK" PSM

NOTE

1 WITH DIVIDER PANEL - INSTALL MASK TUBE CLIP ON O_2 MASK ADJACENT TO DIVIDER PANEL.

WITHOUT DIVIDER PANEL - INSTALL MASK TUBE CLIP ON O_2 MASK



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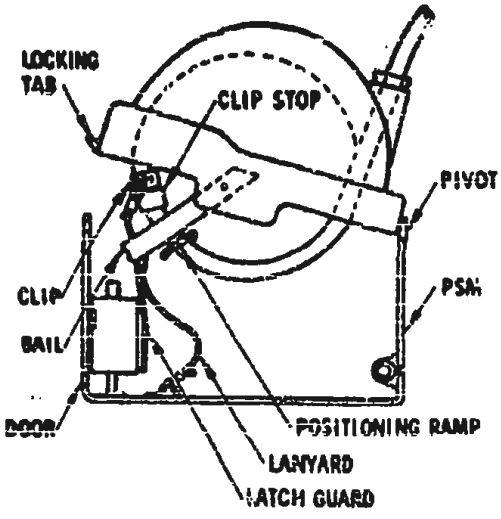
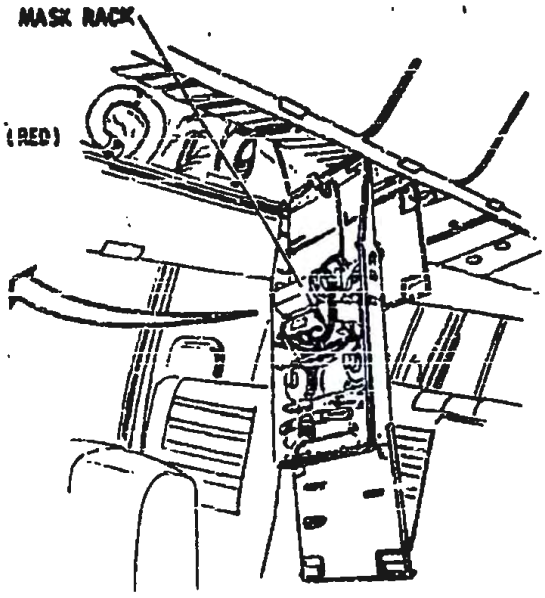
CR Oxygen Mask Stowage Rack Installation - Outboard PSM
CR Figure 602

EFFECTIVITY: ALL

0019

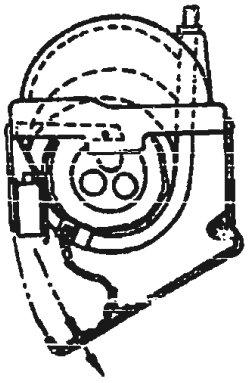




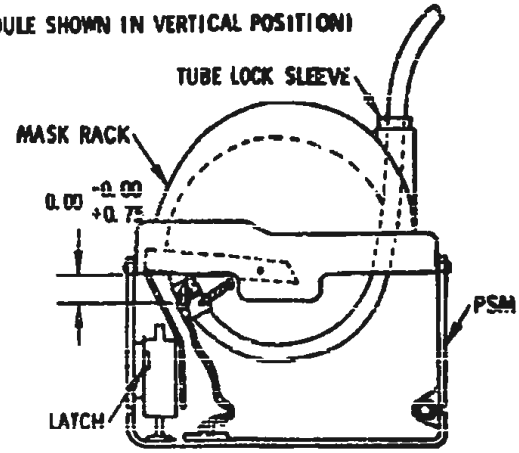
(MODULE SHOWN IN VERTICAL POSITION)

INSTALLATION

1 INSTALL RED PIVOT LUGS INTO PSM SLOTS
2 PASS LANYARD CLIP BETWEEN BAIL AND MASK
3 ATTACH CLIP AGAINST TOP OF STOP ON THE MASK
4 ROTATE RACK TO ENGAGE LOCKING TABS
5 CONNECT MASK TUBES TO GENERATOR OUTLETS -0.25 MIN. ENGAGEMENT



MASKS MUST BE WRAPPED AND INSTALLED TO UNROLL AS DOOR OPENS



VERIFICATION CHECK

1 LOCKING TABS CHECKED
2 BAIL UP AND LEVEL
3 LATCH GUARD SMOOTH AND OVER LATCH
4 LANYARD CLIP TO PROPER MASK. DIRECTION AND DISTANCE
5 OXYGEN MASKS EVEN, NO BULGES AND TUBES WRAPPED TIGHTLY
6 TUBE ROUTING TO GENERATOR -0.25 MIN. ENGAGEMENT
7 GENERATOR CONDITION GOOD AND HOOKED UP ELECTRICALLY

Oxygen Mask Stowage Rack - Inspection and Check
Figure 603

LAVATORIES, CABIN ATTENDANTS, AND FOOD SERVICE SPECIALIST MASK RACKS - REMOVAL AND INSTALLATION

1. General

Removal and installation procedures are similar for all lavatories, cabin attendants, and food service specialist mask stowage racks. The only difference is location of mask tube clip stop for one-mask installation and two-mask installation.

2. Equipment and Materials

Protective caps

Keeper bar for 1 or 2 mask stowage rack

3. Referenced Procedures

35-21-00 Passenger Oxygen System - Adjustment and Test

4. Removal/Installation

A. Removal

R (1) On PASS OXYGEN section of pilots overhead circuit breaker panel CB1, zone 210, open and tag following circuit breakers:

NORMAL MASK (J15)

NORMAL GEN (J16)

OVERRIDE MASK (J17)

OVERRIDE GEN (J18)

CAUTION: CARE MUST BE TAKEN TO KEEP COMPONENTS AND EQUIPMENT CLEAN AND FREE FROM OIL, GREASE, DUST, AND MOISTURE.

(2) Support oxygen module assembly. Open latch pin access door and unlatch spring-loaded, double-bolt pin from receiver (Ref. Fig. 401 and Fig. 402).

(3) Allow module to pivot downward on locating pins until pins disengage from retainer on ceiling panel.

(4) Guide module down through opening in ceiling far enough for access to electrical connector.

R (5) Disconnect electrical connector.

R (6) Disconnect oxygen mask tube(s) from oxygen generator
R manifold and install protective cap(s) on outlet
R port(s).

R (7) Turn module upside down so that mask compartment door
R is facing upward.

R (8) If compartment door is closed, apply approximately five
R pounds of force to pull it open.

R (9) Open door far enough to gain access to mask tube clip
R on end of mask extractor lanyard(s).

R (10) Remove clip(s) from mask tube(s).

R (11) Squeeze ends of rack to free it from module.

R (12) Lift rack from module.

R (13) Install keeper bar across open side of rack.

B. Installation

CAUTION: IF MASKS ARE DROPPED, REPLACE WITH PREPACKED
C STOWAGE RACK. DO NOT ATTEMPT TO WRAP MASKS OR
C LOAD RACKS.

(1) Verify that circuit breakers opened in Step 4A(1) are open and tagged.

(2) With mask rack upside down (keeper bar up) remove keeper bar (Ref. Fig. 403).

CAUTION: DO NOT TURN MASK RACK OVER AFTER KEEPER IS REMOVED.

(3) With module upside down and mask rack held over opening, observe correct indexing between mask rack locating tabs on rack and tabs in module.

(4) Guide mask tube(s) through grommeted tube exit hole(s) as mask rack is placed into module.

(5) Attach mask tube clip(s) to tube(s) on mask side of clip stop (Ref. Fig. 403). Clip must be snug against stop.

(6) Verify dimension between clip stop and edge of rack. Mask(s) may be adjusted in rack to attain required
C dimension. (0.25 to 1.50 inch for 2 mask installation
C and 0.25 to 1.00 for 1 mask installation).

NOTE: Tube coils must lay flat and masks must not be distorted.

(7) Close mask compartment door.

(8) Remove protective cap(s) from generator outlet port(s) and connect oxygen mask tube(s). Engagement of tube
C over outlet to be 0.25 inch minimum (at installation).

CR (9) Verify that oxygen generator manifold is directed
CR toward module.

(10) Push excess mask tube into module.

(11) Connect electrical connector.

(12) Guide module upward through ceiling opening, and engage module locating pins with retainer on ceiling panel.

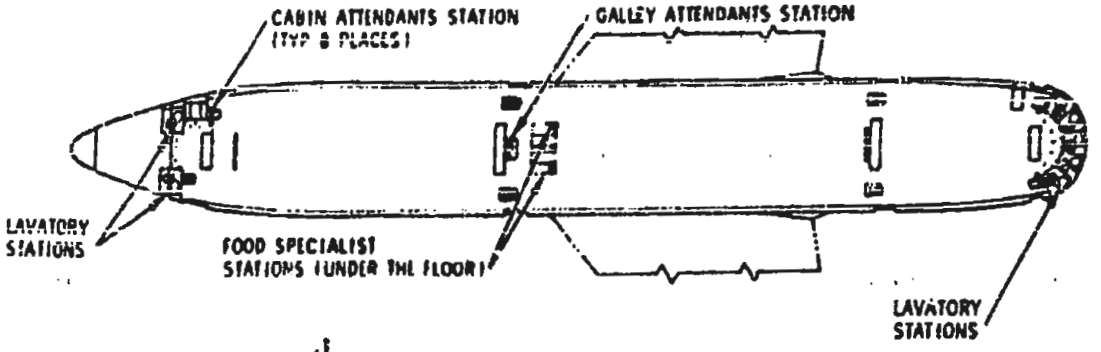
(13) Pivot module upward into position. Verify that spring-loaded pins engage receiver, and hold module in place.

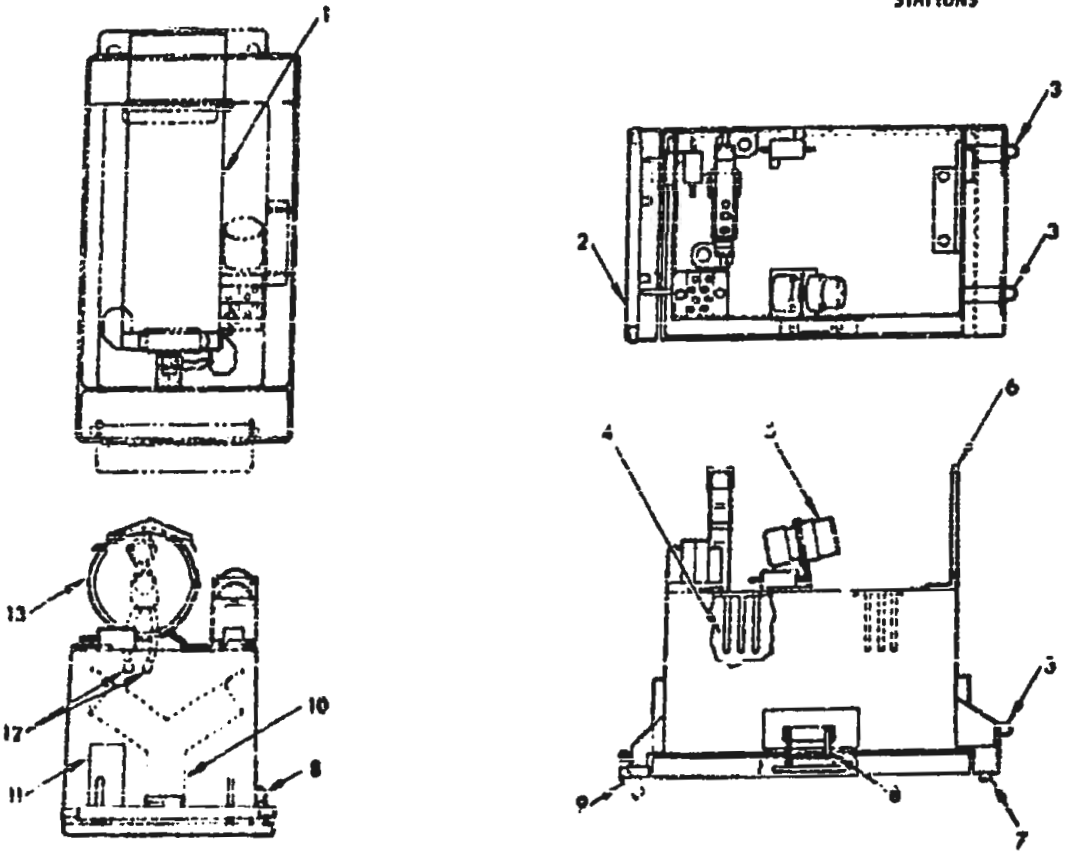
(14) Verify clearance dimension between module and ceiling panel. Clearance at latch side of mask compartment door must be 0.05 inch minimum, and 0.03 inch minimum at hinge side of door.

NOTE: Mounting hardware location on ceiling panel may be adjusted to achieve required clearance.

(15) Remove tags and close circuit breakers opened in Step 4A(1).

(16) Perform BITE test to verify operation of oxygen system (Ref. 35-21-00).





1	CHEMICAL OXYGEN GENERATOR	8	MASK COMPARTMENT DOOR LATCH
2	SPRING-LOADED LATCH PIN	9	LATCH PIN ACCESS DOOR
3	LOCATING PINS	10	MASK RACK
4	MASK RACK LOCATING TABS	11	HINGE LOCATION (EACH END)
5	ELECTRICAL CONNECTOR	12	TUBE EXIT
6	O_2 GENERATOR SUPPORT RING	13	OVER CENTER TOGGLE GENERATOR CLAMP
7	LAMP		

OXYGEN MODULE

HM 5871
MI-0101-35-022

Lavatories, Cabin Attendants, Food Service Specialists
Oxygen Module Assembly
Figure 401

R
R
R

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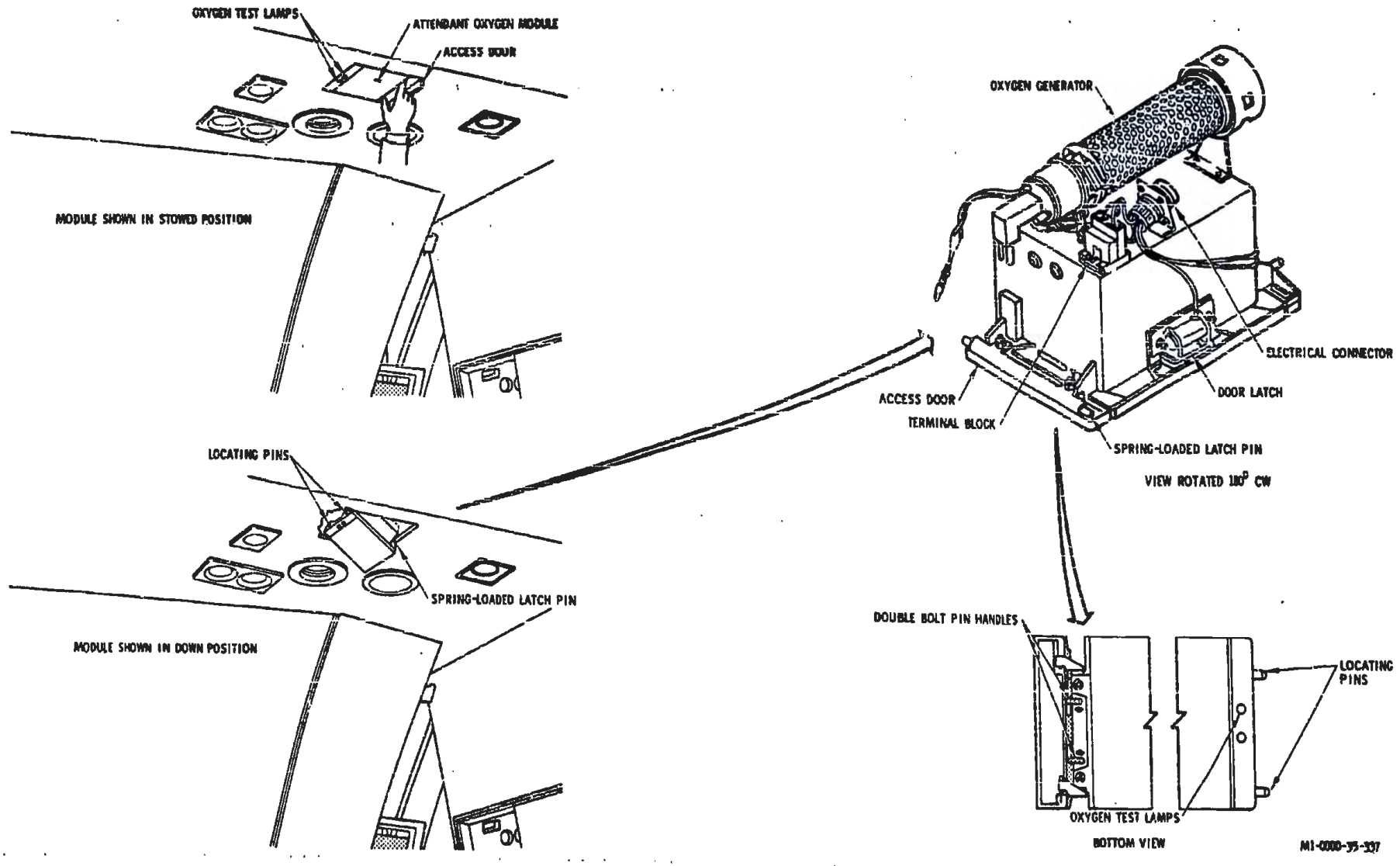
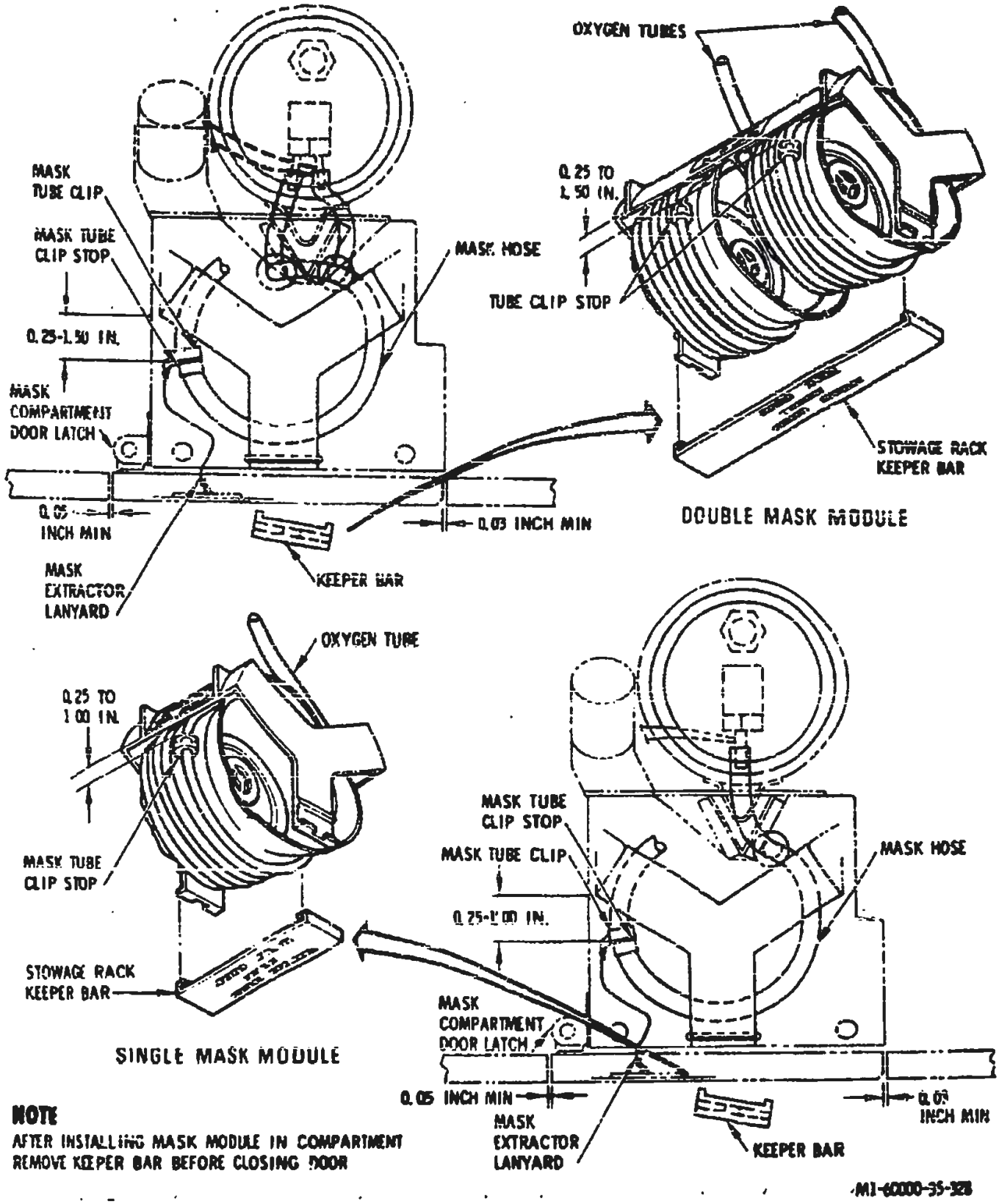
018

EFFECTIVITY: ALL



Lavatory and Attendant Oxygen Module - Removal and Installation
Figure 402

R
R
001B EFFECTIVITY: ALL



NOTE

AFTER INSTALLING MASK MODULE IN COMPARTMENT REMOVE KEEPER BAR BEFORE CLOSING DOOR

Oxygen Mask Stowage Rack - Removal and Installation
Figure 403

LAVATORIES, CABIN ATTENDANTS, AND FOOD SERVICE SPECIALIST MASK RACKS - INSPECTION AND CHECK

1. General

This procedure outlines steps to be performed to check condition of oxygen mask installations at all lavatory, cabin attendant, and food service specialist locations.

NOTE: This procedure may be performed concurrently with inspection of chemical oxygen generator (Ref. 35-21-02).

2. Referenced Procedures

35-21-00	Passenger Oxygen System - Adjustment and Test
35-21-02	Fixed Chemical Oxygen Generator - Inspection and Check
35-21-10	Lavatories, Cabin Attendants, and Food Service Specialist Mask Racks - Removal and Installation

3. Inspection/Check

CAUTION: IF MASKS ARE ACCIDENTALLY DROPPED, REPLACE WITH PREPACKED STOWAGE RACK (REF. 35-21-10). DO NOT C ATTEMPT TO WRAP MASKS OR LOAD RACKS.

A. Inspection

(1) On PASS. OXYGEN section of pilots overhead circuit breaker panel CB1, zone 210, open and tag the following circuit breakers:

NORMAL MASK (J15)

NORMAL GEN (J16)

OVERRIDE MASK (J17)

OVERRIDE GEN (J18)

CAUTION: CARE MUST BE TAKEN TO KEEP COMPONENTS AND EQUIPMENT CLEAN AND FREE OF OIL, GREASE, DUST, AND MOISTURE.

(2) Support oxygen module assembly. Open latch pin access door and unlatch spring-loaded, double-bolt pin from receiver.

(3) Allow module to pivot downward on locating pins until pins disengage from retainer on ceiling panel.

(4) Guide module down through opening in ceiling far enough for access to electrical connector.

(5) Disconnect electrical connector.

(6) Turn module upside down so that mask compartment door is facing upward.

CAUTION: MASK EXTRACTOR LANYARD IS ATTACHED TO DOOR. OPEN DOOR ONLY ENOUGH TO SEE MASK. DO NOT EXCEED LENGTH OF LANYARD. DO NOT DISTURB MASK.

(7) Apply approximately five pounds of force to pull compartment door open.

(8) Visually inspect mask stowage rack installation to verify the following:

(a) Mask tube coiled neatly and snugly around mask (Ref. Fig. 601).

(b) Mask tube covers bag, with no corners of bag protruding.

(c) Mask not excessively deformed, where edges are folded over.

(d) Mask correctly oriented in rack so that mask extractor lanyard can pull mask from rack and unroll mask tube in same direction as door swing.

NOTE: Mask rack installations with two masks have a mask extractor lanyard attached to tube of each mask.

R

(e) Mask tube clip attached to mask tube at far side of clip stop, snug against stop. Clip must be visible when viewed from top edge of rack.

(f) Mask and lanyard not snagged in rack or module.

(g) No obvious deterioration of masks and/or tubes.

(9) Close compartment door and verify that:

(a) Permanent magnet on door contacts both pole pieces of electromagnet.

(b) Door hinges are fully engaged.

(10) Verify that oxygen generator manifold outlet is pointed toward module.

(11) Verify that mask tube is connected to generator manifold with minimum engagement of 0.25 inch.

(12) Verify that all excess tube is pushed into module.

(13) Securely connect electrical connector.

(14) Guide module upward through ceiling opening, and engage module locating pins with retainer on ceiling panel.

(15) Pivot module upward into position. Verify that spring-loaded pins engage receiver, and hold module in place.

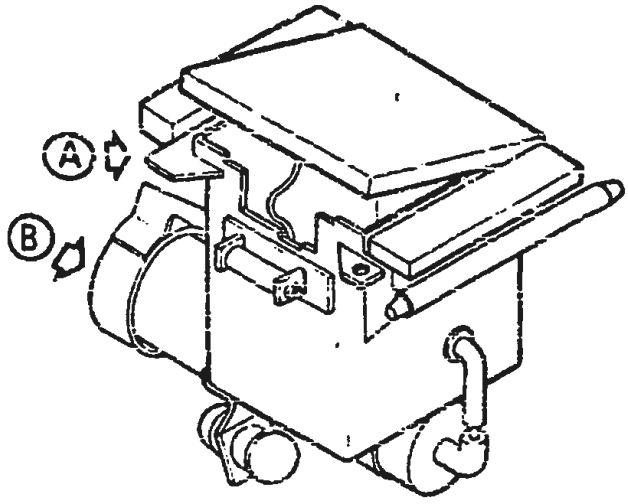
(16) Verify clearance dimension between module and ceiling panel. Clearance at latch side of mask compartment door must be 0.05 inch minimum, and 0.03 inch minimum at hinge side of door.

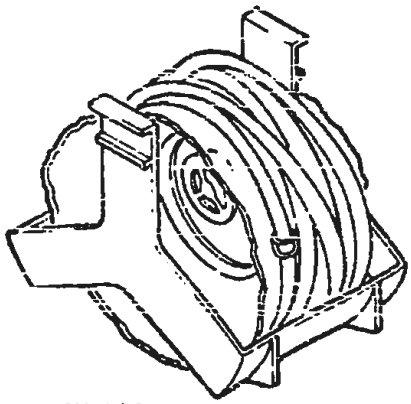
R

(17) Verify that door is within 0.03 inch below and 0.06 inch above ceiling panel.

(18) Remove tags and close circuit breakers opened in Step 3A(1).

(19) Perform BITE test to verify operation of oxygen system (Ref. 35-21-00).

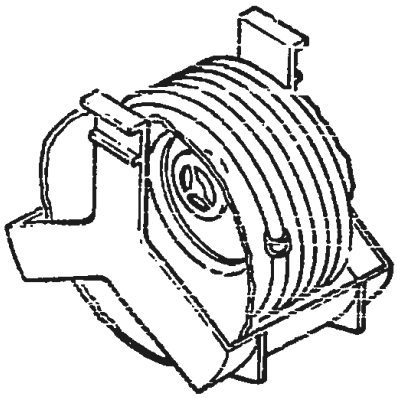




UNACCEPTABLE MODULE

(A)

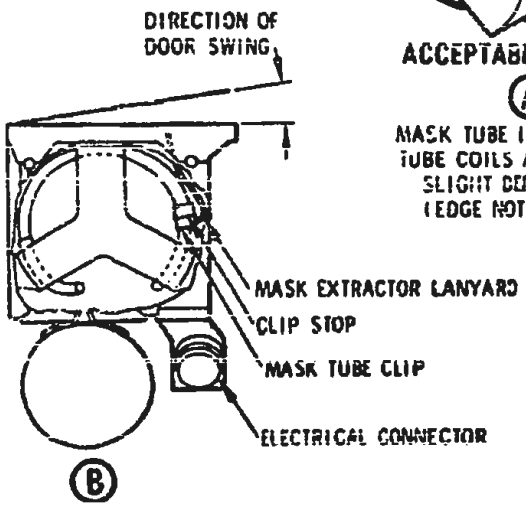
MASK TUBE LOOSELY WRAPPED
TUBE COILS OVERLAP



ACCEPTABLE MODULE

(A)

MASK TUBE IS SNUGLY WRAPPED
TUBE COILS ARE EVENLY SPACED
SLIGHT DEFORMITY IN MASK
(EDGE NOT FOLDED OVER)



NOTE

1 THE RIM OF MASK MAY BE WAVY AND BE ACCEPTABLE PROVIDED MASK EDGE IS NOT FOLDED OVER DOUBLE NOR HANGING ON RACK.

M1-0000-35-044

CR Oxygen Mask Rack Installation - Lavatories
CR Cabin Attendants, and Food Service Specialists
CR Figure 601

EFFECTIVITY: ALL

LAVATORIES, CABIN ATTENDANTS, AND FOOD SERVICE SPECIALISTS OXYGEN MODULE ASSEMBLY - REMOVAL AND INSTALLATION

1. General

R The removal and installation procedures are the same for all module assemblies. Location of oxygen module assembly and stowage rack configuration will be determined by cabin configuration of aircraft (Ref. Fig. 401).

2. Referenced Procedure

35-21-00 Passenger Oxygen System - Adjustment and Test

3. Removal/Installation

A. Removal

(1) On PASS OXYGEN section of pilots overhead circuit breaker panel CB1, zone 210, open and tag following circuit breakers:

NORMAL MASK (J15)

NORMAL GEN (J16)

OVERRIDE MASK (J17)

OVERRIDE GEN (J18)

(2) Support oxygen module assembly. Open latch pin access door and unlatch spring-loaded, double-bolt pin from receiver (Ref. Fig. 402).

(a) Insert thumb and index finger through pin access door.

(b) Squeeze stub extensions on pins together to pull pins out of pin receiver and free module.

(3) Allow module to pivot downward on locating pins until pins disengage from retainer on ceiling panel.

(4) Guide module down through opening in ceiling far enough for access to electrical connector.

(5) Disconnect electrical connector.

B. Installation

(1) Verify that circuit breakers opened in Step 3A(1) are open and tagged.

(2) Connect electrical connector.

(3) Guide module up through ceiling opening and engage module locating pins with retainer on ceiling panel.

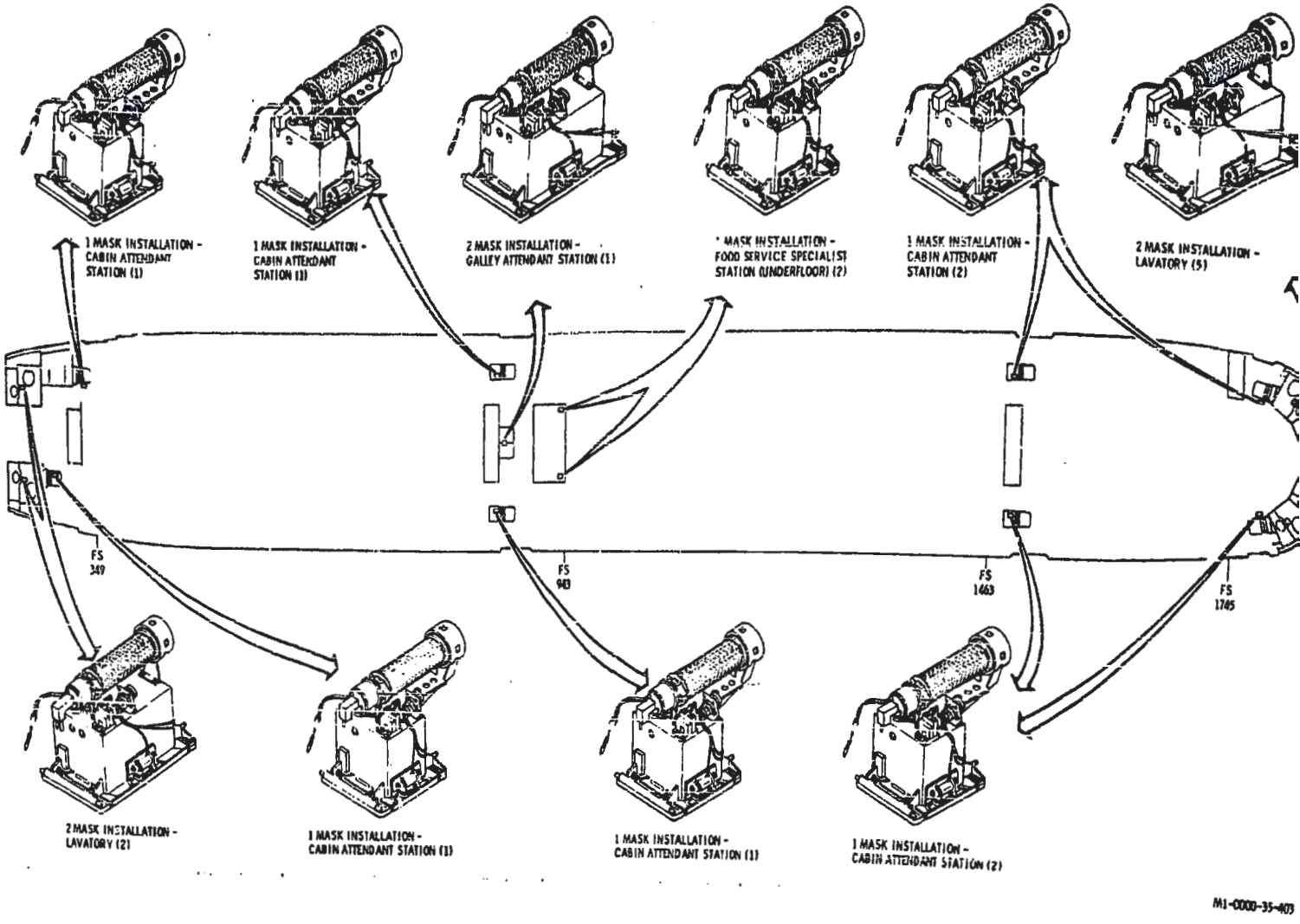
(4) Pivot module upward into position. Verify that spring-loaded pins engage receiver and hold module in place.

(5) Verify clearance dimensions between module and ceiling panel. Clearance at latch side of mask compartment door must be 0.05 inch minimum, and 0.03 inch minimum at hinge side of door.

NOTE: Locating pin retainer and/or spring-loaded pin receiver on ceiling panel may be adjusted to achieve required clearance.

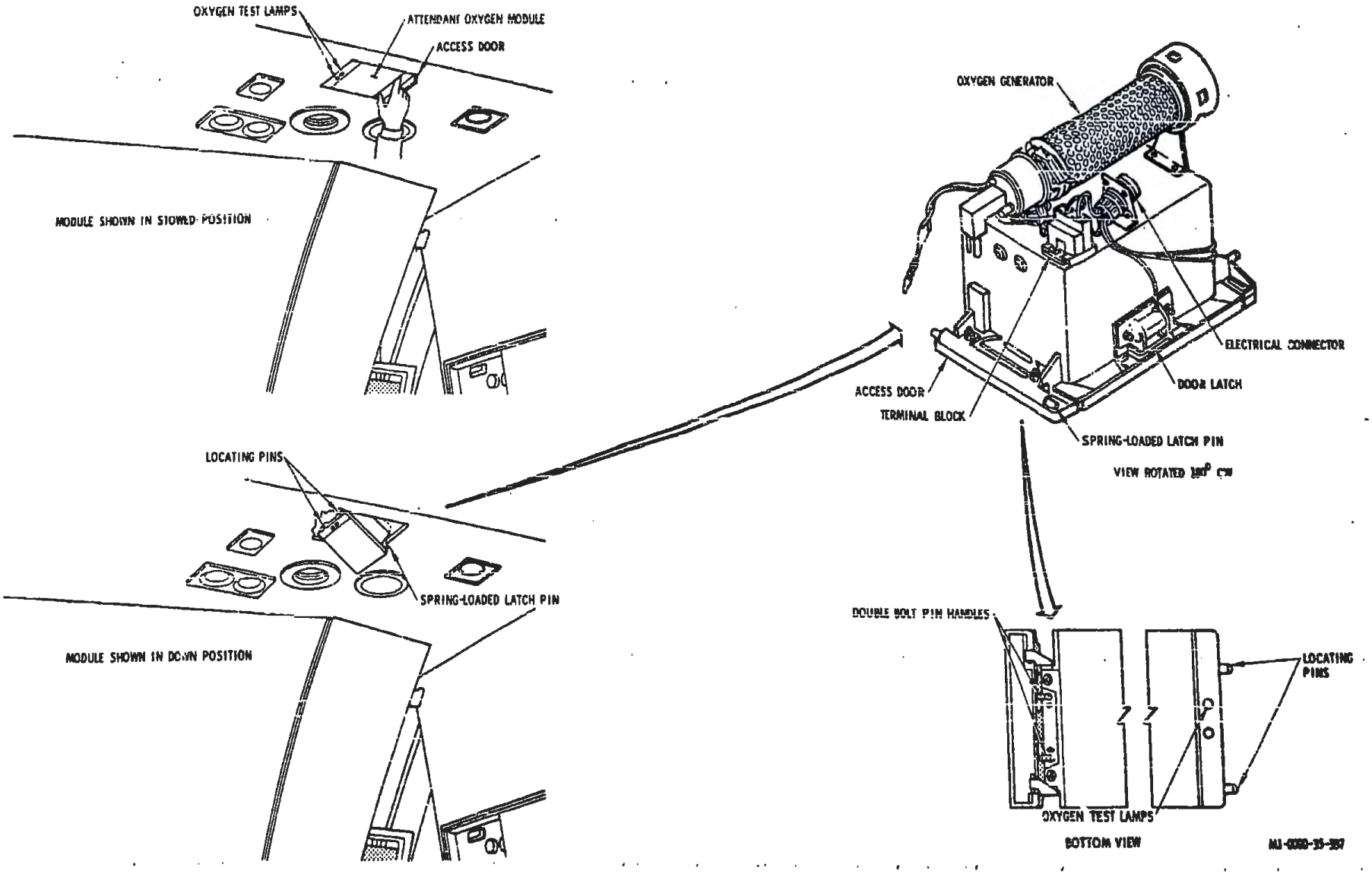
(6) Remove tags and close circuit breakers opened in Step 3A(1).

(7) Perform BITE test to verify operation of oxygen system (Ref. 35-21-00).


1 MASK INSTALLATION - CABIN ATTENDANT STATION (1)
1 MASK INSTALLATION - CABIN ATTENDANT STATION (1)
2 MASK INSTALLATION - GALLEY ATTENDANT STATION (1)
* MASK INSTALLATION - FOOD SERVICE SPECIALIST STATION (UNDERFLOOR) (2)
1 MASK INSTALLATION - CABIN ATTENDANT STATION (2)
2 MASK INSTALLATION - LAVATORY (5)
FS 349
FS 949
FS 1663
FS 1745
2 MASK INSTALLATION - LAVATORY (2)
1 MASK INSTALLATION - CABIN ATTENDANT STATION (1)
1 MASK INSTALLATION - CABIN ATTENDANT STATION (1)
1 MASK INSTALLATION - CABIN ATTENDANT STATION (2)
M1-0000-35-403

Oxygen Module Assembly Location Diagram
Figure 401

R
R
001B EFFECTIVITY: ALL



Oxygen Module Assy - Removal and Installation
Figure 402

R EFFECTIVITY: ALL
R
001B

PORTABLE OXYGEN EQUIPMENT - DESCRIPTION AND OPERATION

1. General

Portable oxygen units are provided for protective breathing and first aid. A portable gaseous oxygen unit is stored in a rack left of the Second Observers seat, zone 211.

On aircraft 001-031,
ten portable gaseous oxygen units for first aid and emergency use are provided for the cabin attendants.

On aircraft 032-999,
twelve portable gaseous oxygen units for first aid and emergency use are provided for the cabin attendants.

Two additional portable gaseous oxygen units are provided in the galley (Ref. Fig. 1).

C There are two types of oxygen cylinders. The first type,
C normally for passenger use, (Scott and Zep) provides 2 and 4
C liters per minute (lpm) constant-flow rate outlets. The second
C type, normally for crew use, provides a demand-flow rate outlet.
C The first type oxygen cylinder assembly is comprised of a
C 1800-psi cylinder, a regulator assembly, a pressure gage,
C shutoff valve, servicing valve, high pressure safety plug, a
C relief valve, and a carrying harness. The regulator assembly
C produces a reduced constant-flow pressure through two outlets.
C The second type oxygen cylinder assembly incorporates all of the
C features of the first type and, in addition, has a demand-flow
C regulator in lieu of the two constant-flow outlets.

C The Zep cylinder (Ref. Fig. 1A) has its own mask pouch tethered
C to it. (Masks are TWA Stock Nbr. 96-0761.)The masks contained
C in the pouch have special fittings to connect with the outlets
C on these new cylinders, therefore, the mask pouch must stay with
C the cylinder. When installing the Zep portable cylinder (which
C is preferred for first-aid use), install it in a conspicuous
C aftward stowage location. The Zep cylinder to be readily
C accessible, should be stowed at the top of a stack of cylinders
C at the top of a drawer of cylinders, etc., whenever possible in
C the aft section of the airplane. Position the tethered pouch so
C that it will nest neatly either along-side the cylinder or the
C regulator. If, in an unusual case, there is no room in the box
C or drawer for the pouch, it may be placed outside the drawer
C suspended by its tether cord. When the cylinder is installed in
C certain locations, the tethered pouch must lay outside the
C stowage box.

2. Crew Portable Breathing Oxygen Cylinder

A. Description

The portable oxygen cylinder contains 11 cubic feet (310 liters) of free oxygen compressed to 1850 psig at 70 degrees F (21.2°C). The portable cylinder is located in the flight station, zone 211. The portable unit consists of the following:

High-pressure oxygen cylinder

Fingertip-controlled ON-OFF valve

Pressure regulator to reduce high-pressure oxygen to a lower pressure suitable to supply a demand regulator

Pressure gage for continuous indication of oxygen pressure

Safety plug to prevent excessive pressure buildup in the cylinder in the event of fire

Charging valve assembly for recharging with high-pressure oxygen

Relief valve vented to atmosphere to prevent excessive outlet pressure

Outlet assembly for connection of the demand regulator

Demand regulator which allows oxygen to flow, on demand, to a full-face smoke mask

Constant flow outlet

Demand-type full-face smoke mask

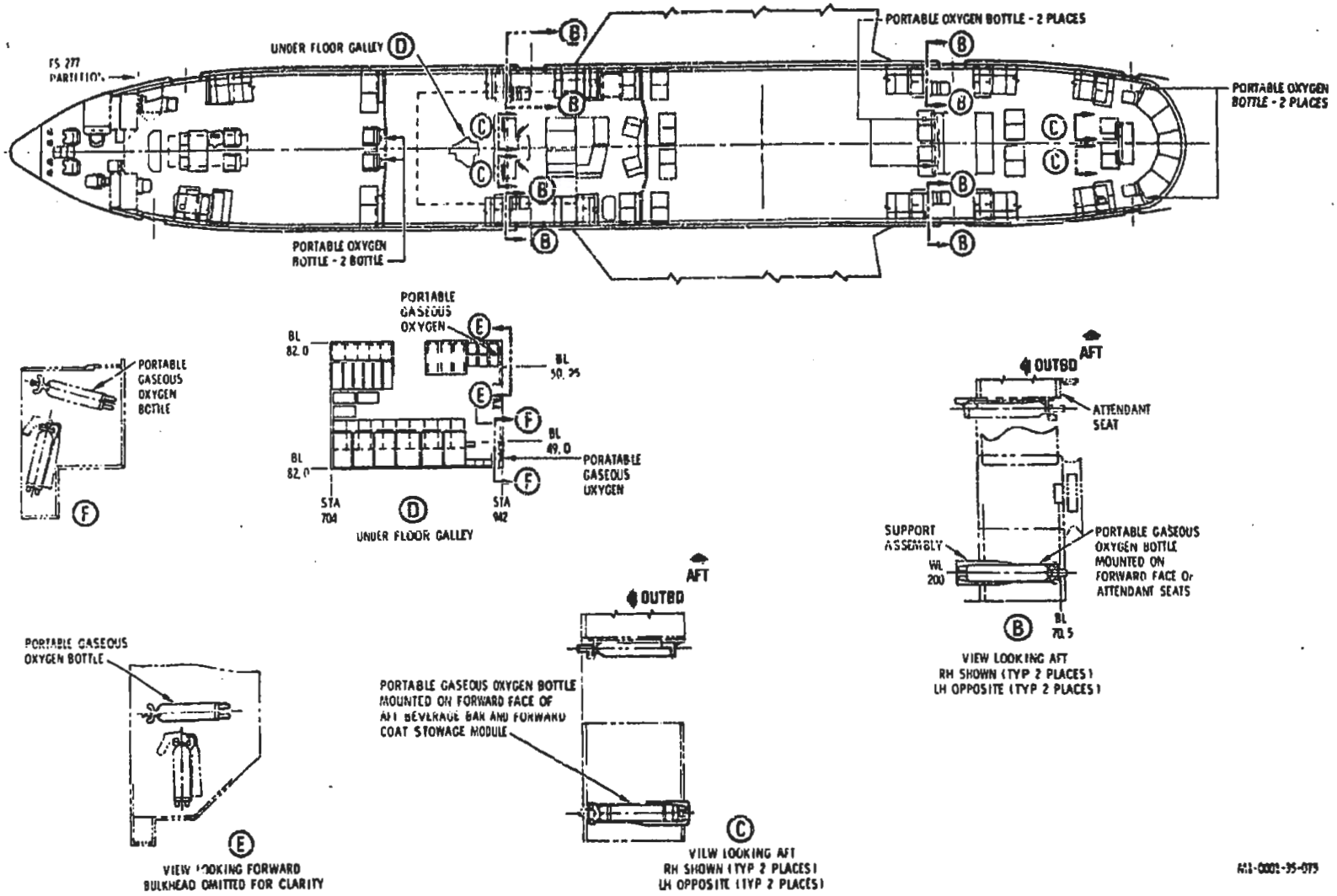
The portable cylinder can be carried by the shoulder strap (Ref. Fig. 2).

B. Operation

C Rotating the ON-OFF valve (Ref. Fig. 3) counterclockwise
C opens the valve allowing oxygen to flow through the pressure
C regulator to the demand regulator. Undiluted oxygen is delivered to the smoke mask on a demand basis.

3. Cabin Portable Breathing Oxygen Cylinder

A. Description

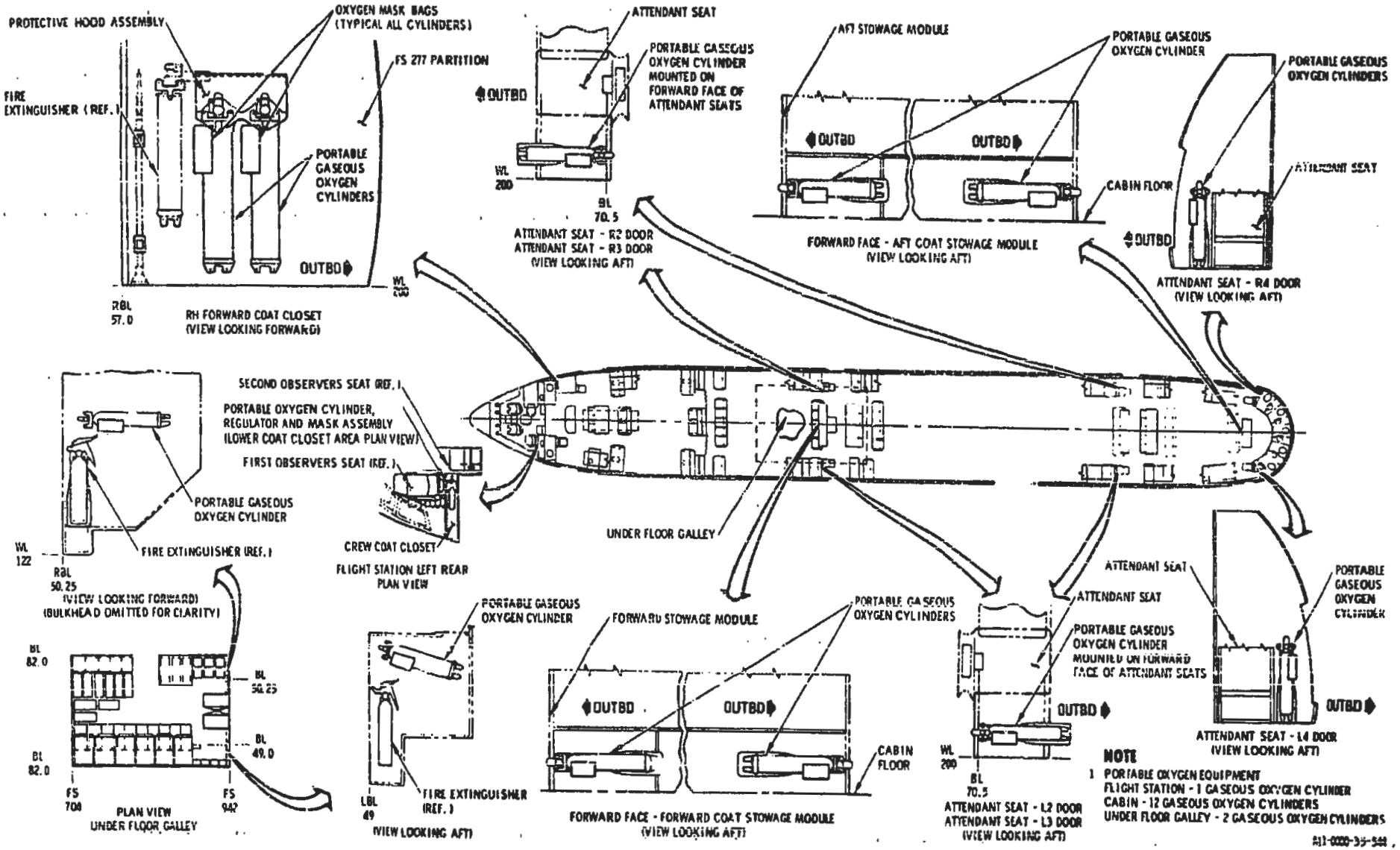


CR
CR

Portable Oxygen Units Location Diagram
Figure 1

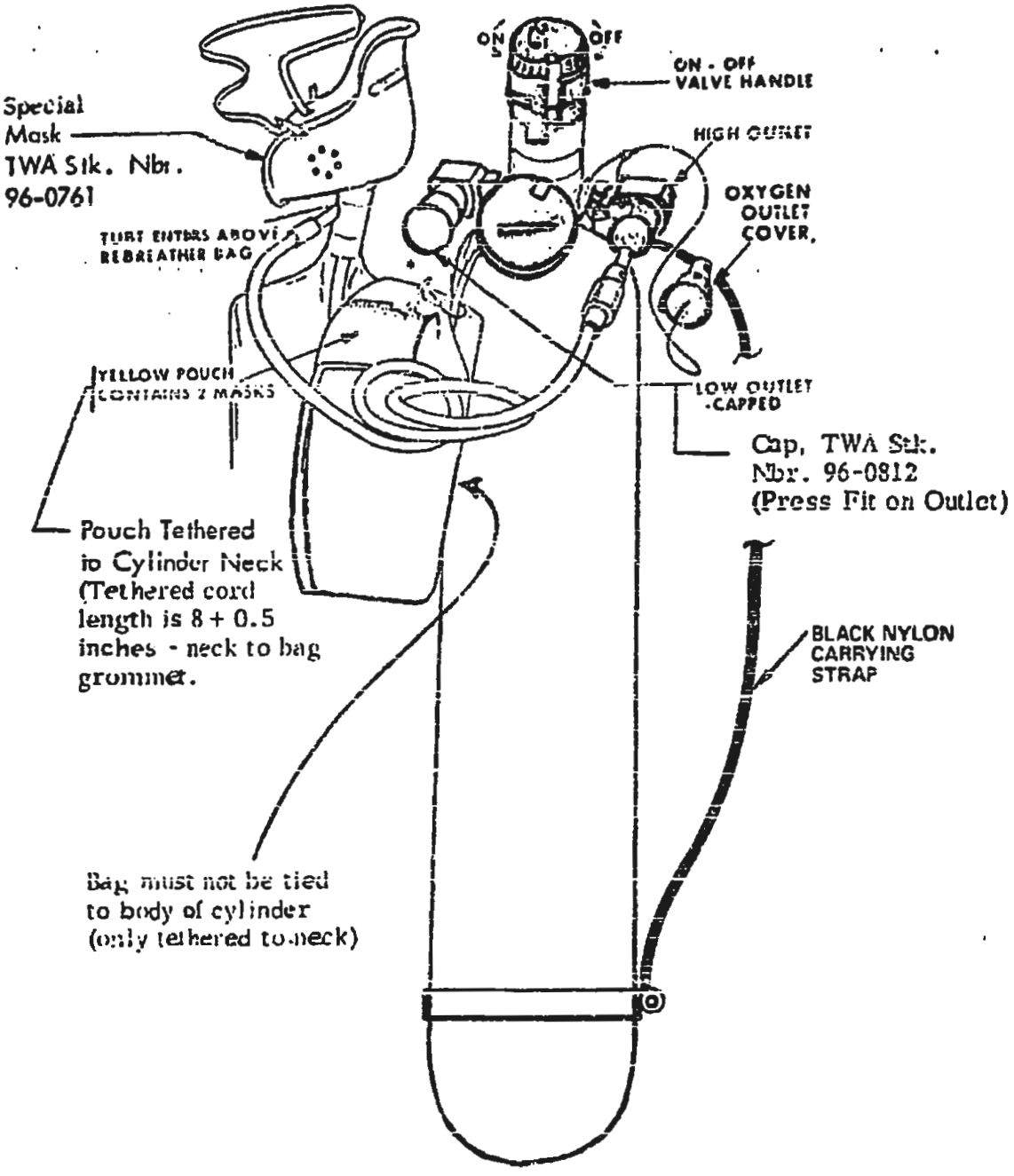
EFFECTIVITY: 001-031

003B



R R Portable Oxygen Units Location Diagram
Figure 1

R R 003B EFFECTIVITY: 032-999


ON
OFF
ON - OFF VALVE HANDLE
Special Mask TWA Stk. Nbr. 96-0761
HIGH OUTLET
OXYGEN OUTLET COVER
TUBE ENTERS ABOVE REBREATHER BAG
YELLOW POUCH CONTAINS 2 MASKS
LOW OUTLET -CAPPED
Cap, TWA Stk. Nbr. 96-0812 (Press Fit on Outlet)
Pouch Tethered to Cylinder Neck (Tethered cord length is 8 + 0.5 inches - neck to bag grommet.
BLACK NYLON CARRYING STRAP
Bag must not be tied to body of cylinder (only tethered to neck)

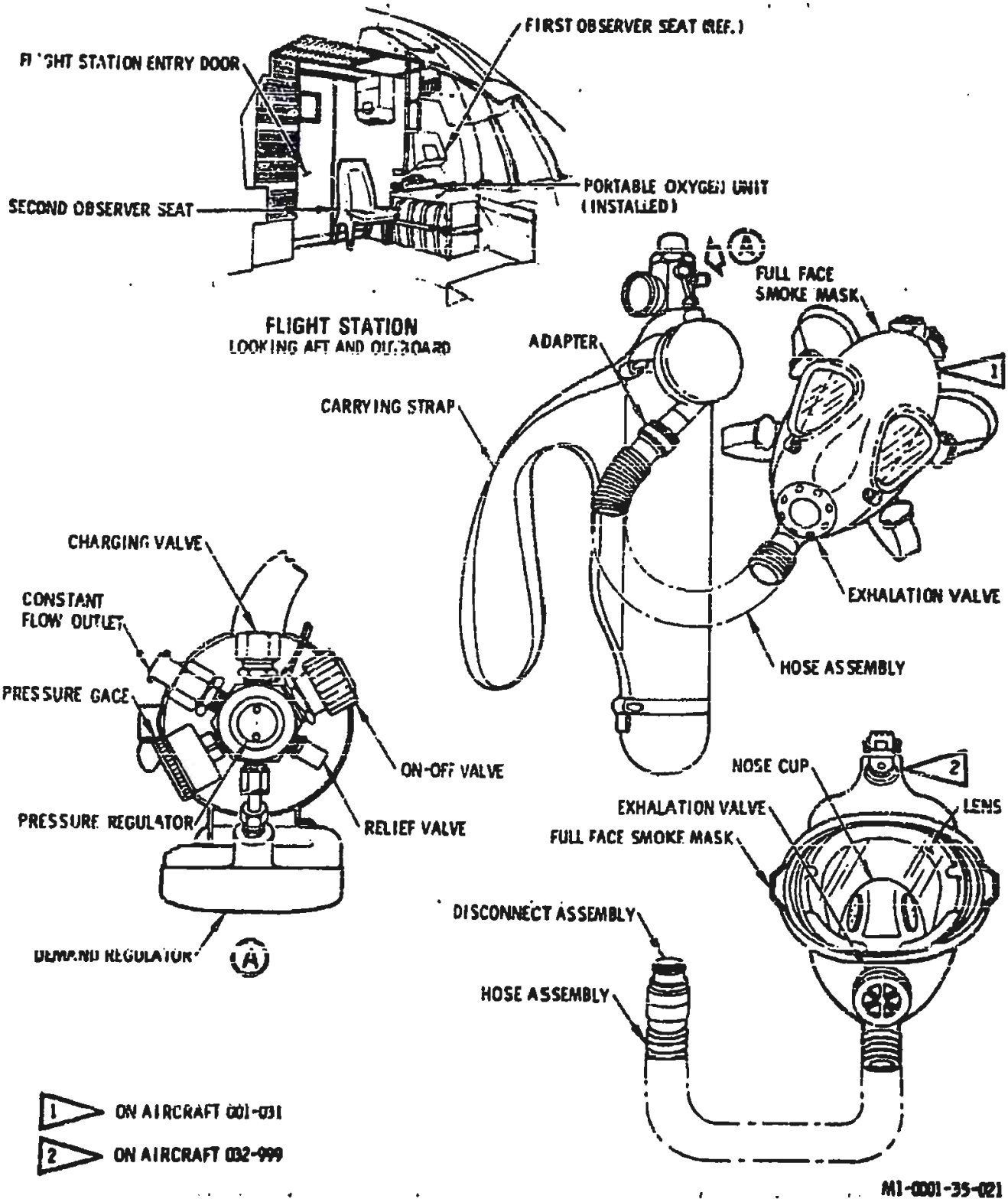
HA 2480
M1-5000-35-060

Zep Portable Oxygen Cylinder Assembly
Figure 1A

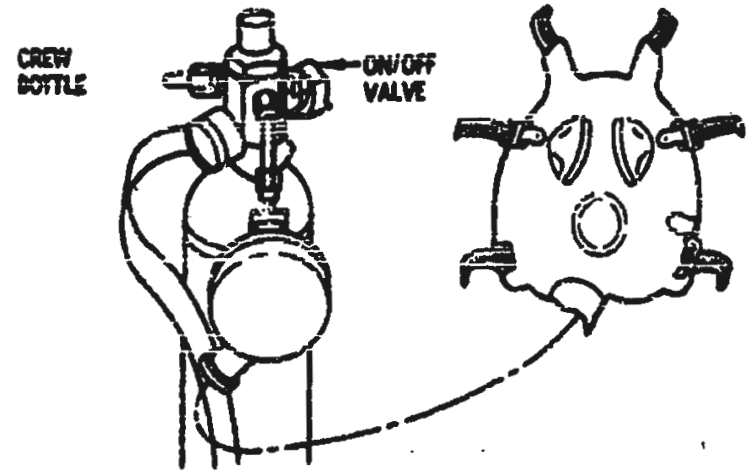
C
C

R
R
003B

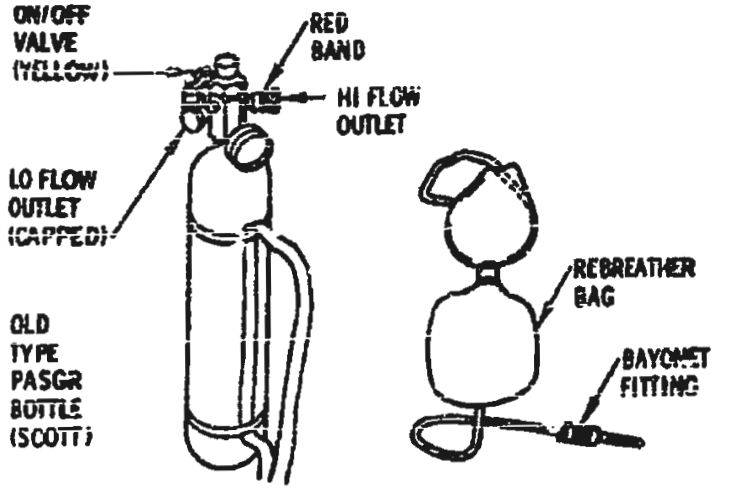
EFFECTIVITY: ALL



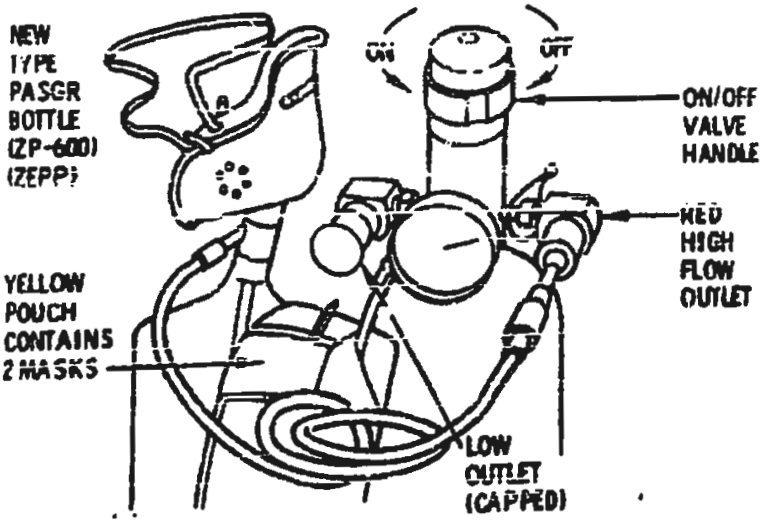
Crew Portable Breathing Oxygen Cylinder
Figure 2



INFORMATION	PRE-FLIGHT
• 100% DEMAND • CREW USE ONLY • 14 MIN SUPPLY • CREW QUICK DONNING MASK CAN BE CONNECTED TO BOTTLE	• 1750 PSI/70° • SMOKE MASK ATTACHED



INFORMATION	PRE-FLIGHT
• HIGH FLOW (RED) OUTLET FOR FIRST AID OXYGEN • LOW FLOW OUTLET INCREASES OXYGEN ENDURANCE, ALLOWS TWO PERSONS ON SAME BOTTLE, ETC.	• 1750 PSI/70° • 1 MASK PLUGGED INTO HIGH FLOW OUTLET

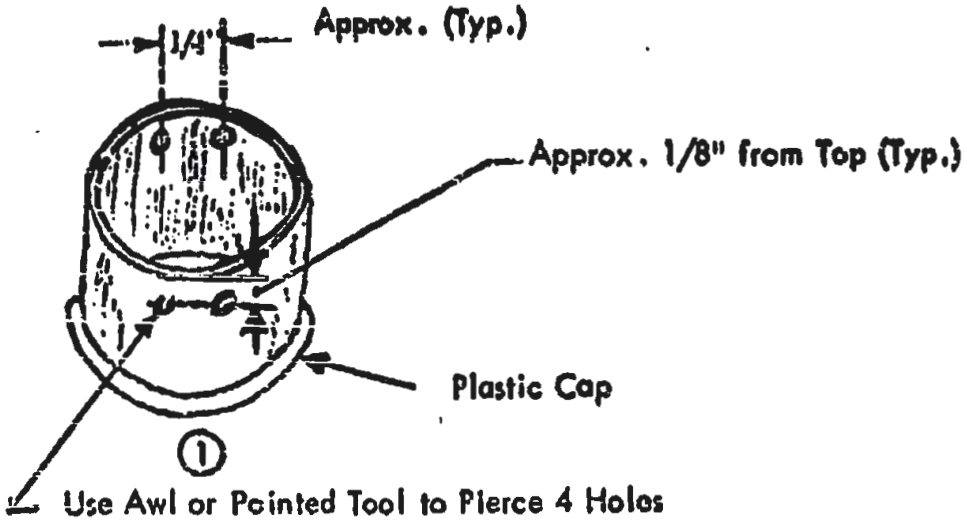


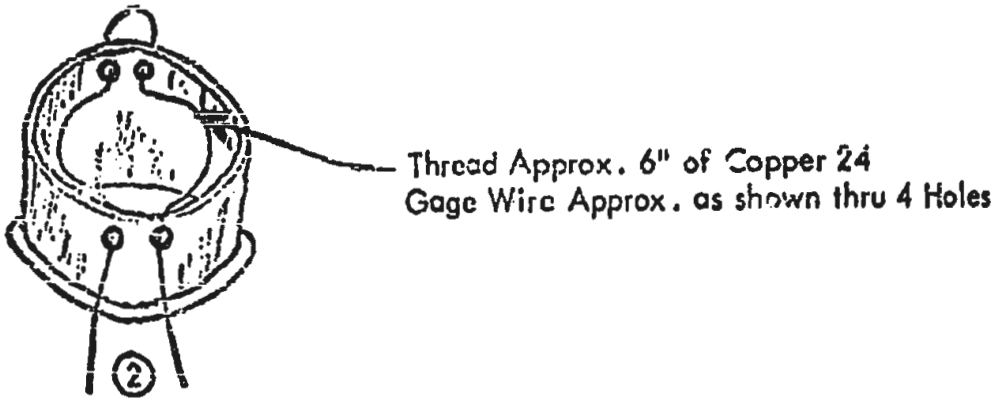
INFORMATION	PRE-FLIGHT
• MASK POUCH ATTACHED TO BOTTLE CONTAINS 2 MASKS (NOT INTER-CHANGEABLE WITH ABOVE BOTTLE) • FLOW OUTLETS AS ABOVE	• 1750 PSI/70° • 1 MASK PLUGGED INTO HIGH FLOW OUTLET

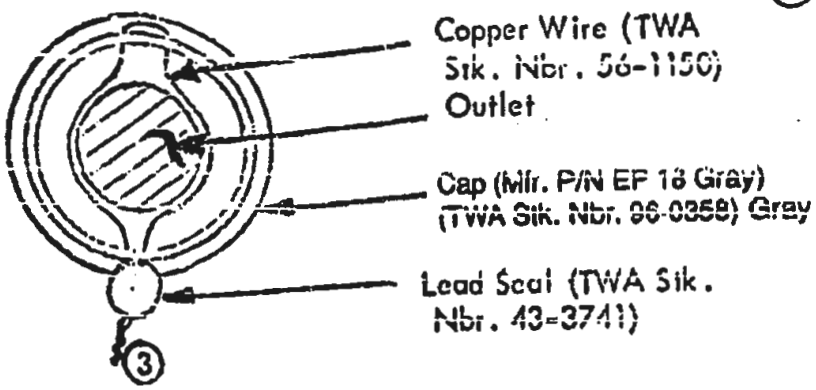
M1-0002-35-01

Portable Oxygen Unit
Figure 3

CR
CR







View A
Looking Inside
Installed Cap

(4) Procedure:

(a) Place cap over outlet.
(b) Pull wire taut around outlet and thru seal.
(c) Twist wire outside seal.
(d) Crush seal with pliers.
(e) Rotate cap so seal is pointing toward bottom of cylinder.
(f) Cut off excess wire.

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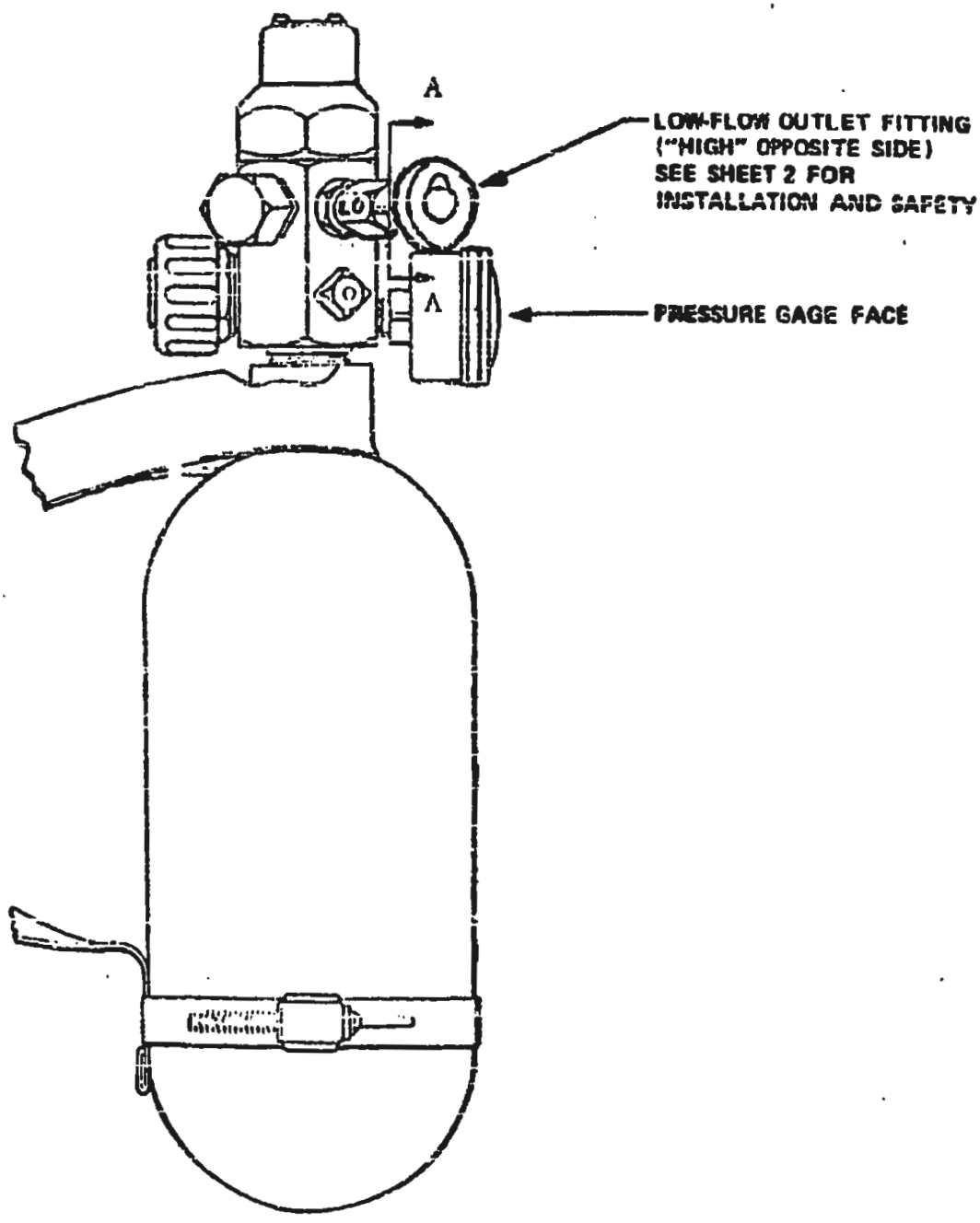
CR Scott Portable Oxygen Cylinder Low Flow Outlet Cap Installation
CR Figure 4 (Sheet 1)



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C Scott Portable Oxygen Cylinder Low Flow Outlet Cap Installation
C Figure 4 (Sheet 2)

Each cabin portable oxygen cylinder contains 11 cubic feet (310 liters) of free oxygen compressed to 1980 psig at 70 degrees F (21.2°C). The cylinders are located throughout the passenger cabin as shown in Figure 1. The portable cylinders are for use with constant flow oxygen masks.

C CAUTION: THE MASKS WITH THE ZEP UNIT AND THE MASKS FOR THE
C SCOTT UNIT ARE NOT INTERCHANGEABLE. IT IS
C MANDATORY THAT THE CORRECT MASK BE INSTALLED WHEN
C THE CYLINDERS ARE REPLACED.

C The portable cylinders are identified as TWA Stk Nbr 12155
C (MSL 72-151-C35) and may be either a ZEP or SCOTT unit. The
C ZEP unit includes masks in a zippered container tethered to
C the cylinder. Since TWA Stk Nbr 12155 stock includes both
C the Scott and Zep type portables, a Scott type portable may
C be installed at some future routine cylinder replacement.
C When a Scott type cylinder is to be installed, it is
C MANDATORY TO ALSO INSTALL a bag of masks TWA Stk Nbr
C 292-6370 adjacent to or hanging on the Scott cylinder.

C CAUTION: IF THE ABOVE REQUIREMENT IS NOT COMPLIED WITH,
C THERE WILL BE NO MASKS AVAILABLE FOR USE WITH THE
C SPECIAL OUTLET RECEPTACLES ON THE SCOTT CYLINDERS.

C Masks for the SCOTT unit are separate from the cylinder and
C are identified as TWA STOCK NO. 292-6370.

C PORTABLE OXYGEN EQUIPMENT - MAINTENANCE PRACTICES

C 1. Maintenance Practices

C A. Harness Installation - Adjustment and Test

C (1) The portable oxygen cylinders for hostess and passenger
C use on jet aircraft are equipped with a special web
C harness which must be installed as shown (Ref. Fig.
C 201). When the harness is installed properly, the
C hostess using the cylinder may wear one loop around the
C waist and one loop over the shoulder; if it is
C necessary to leave the cylinder with a sick passenger,
C the waist loop may be rearranged to form a smaller loop
C suitable for tying to a chair arm or leg.

C (2) Whenever installing this portable cylinder, TWA RR
C 12155, it is essential to check for proper arrangement
C of the harness. If any adjustment is necessary, it can
C be done by loosening the clamps and rearranging the
C harness to agree with Figure 201.

C B. Bottle Position

C (1) Each bottle must be positioned such that the gauge is
C readable.

CR CAUTION: ALL PORTABLE OXYGEN BOTTLES ARE TO HAVE THEIR
C VALVES IN THE "OFF" POSITION.

C (2) Remove protective plastic bag from the regulator on the
C cylinder before installation.

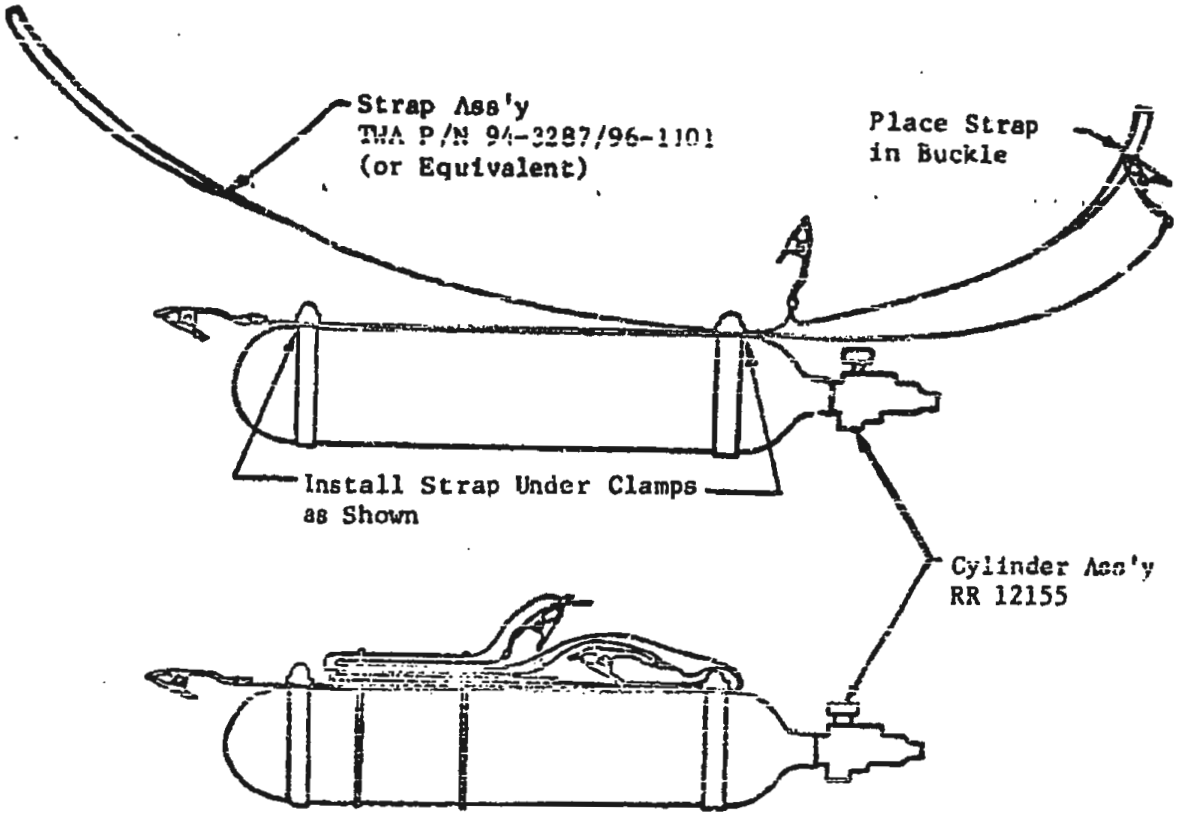
C C. Security of Mounting Portable Oxygen Cylinders

C (1) Portable oxygen cylinders must be firmly clamped in
C position using the neck clamp. Adjust loose clamps by
C adjusting clamp (Ref. Fig. 202).

CR CAUTION: DO NOT ADJUST CLAMP SO TIGHTLY THAT A HOSTESS MAY
C NOT BE ABLE TO SNAP IT OPEN WITH FINGER PRESSURE.

CR 2. Attachment and Connection of Oxygen Masks to Portable Oxygen
CR Cylinders

CR A. When installing a portable oxygen cylinder (TWA Stk. Nbr.
CR 12155) a mask should be connected to the cylinder outlet and
CR stowed with mask attached.



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CR Passenger Portable Oxygen Cylinder Harness Installation
CR Figure 201

CR B. The following instructions apply to connecting the mask to
CR the cylinder:

CR (1) Zep type cylinder (identified by yellow, zippered pouch
CR tied to neck of cylinder).

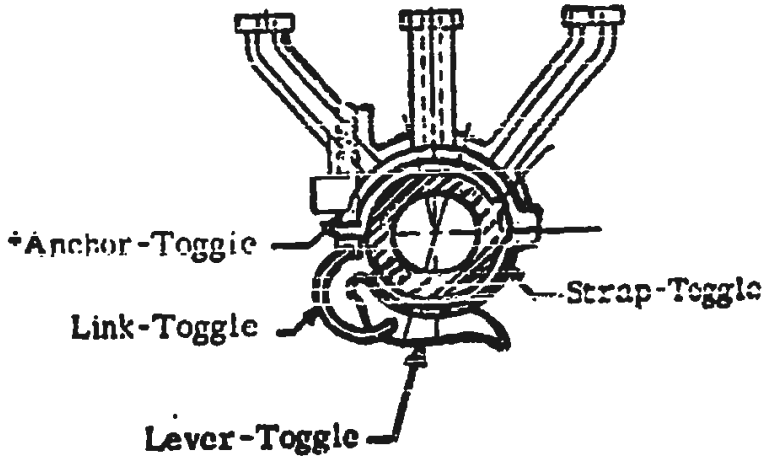
CR (a) Remove 1 of the 2 oxygen masks (TWA Stk. Nbr.
CR 96-0761) stowed in the yellow, zippered pouch.

CR (b) Using fingers only, tear open pliofilm mask
CR package just enough to pull out hose and hose end
CR fitting. Pull out approximately 10-12 inches of
CR hose.

CR (c) Reinstall mask package in yellow pouch with the 12
CR inch hose length protruding from the pouch. Close
CR zipper gently as far as possible.

CR (d) Remove the small red dust cap from the red oxygen
CR outlet. The dust cap is tethered by a cord. Cut
CR cord close to cylinder and discard dust cap.

CR (e) Take the loose end of the protruding mask hose and
CR plug the end fitting into the red outlet located
CR on the right side of the pressure gage face.
CR Assure fitting locks in outlet securely.



* Adjustment Feature: Screw (Rotate) CCW or CW to loosen or tighten grip on Cylinder.

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C Portable Oxygen Cylinder Neck Clamp - Adjustment and Test
C Figure 202

(f) Assure the green on/off control knob on the cylinder is turned to OFF position.

(2) Scott Type Cylinders (identified by Scott metal nameplate on valve body and by no attached pouch):

(a) Obtain a drawstring plastic mask stowage bag that was stowed adjacent to the Scott cylinder or from stock. This bag is stenciled TWA 292-6370 and contains 2 masks, TWA Stk. Nbr. 94-8001 and 1 spanner wrench, TWA Stk. Nbr. 92-6707.

(b) Remove 1 of the 2 oxygen masks stowed in drawstring plastic bag. This will require breaking the wire seal on the bag (if bag is sealed).

(c) Using fingers only, tear open pliofilm mask package just enough to pull out hose and hose end fitting. Pull out approximately 10-12 inches of hose. Leave mask in pliofilm bag.

(d) Take the loose end of the protruding mask hose and plug the end fitting into the red color-coded outlet located on the right side of the pressure gage face.

(e) Assure the yellow on/off control knob is in the OFF fully clockwise position.

NOTE: Assure the yellow knob is closed only finger tight.

(f) Attach mask (in pliofilm bag and with hose plugged into the cylinder outlet) to the upper body of oxygen cylinder with 2 rubber bands, as required (2 minimum). Use ordinary Number 32 rubber bands (3 inches long x 1/8 inch wide - Stationery Stores P/N 3847 or equal) placed around the body of cylinder.

C. The following instructions apply to stowing the cylinder (with mask connected) on the airplane:

NOTE: If because of space limitations the cylinder cannot be stowed with the mask connected, remove mask hose coupling and place entire hose in mask pliofilm packing bag.

(1) Reinstall oxygen cylinder (with mask attached and plugged into cylinder outlet (in aircraft storage brackets/boxes).

CR (2) It may be necessary to rotate a cylinder in its brackets to provide clearance for stowage. Open and close stowage doors/drawers to assure clearance for mask hose and mask facepiece. Adjust cylinder position and mask hose as required.

CR D. Cylinder Recharge Stations/Cylinder Overhaul Shop

CR (1) Assure that a mask is attached to and connected to all R&R 12155 cylinders being recharged before the cylinder is placed in the shipping box. Refer to Step B. above for mask connection details. Use only transparent pliofilm bags when packaging oxygen masks, TWA Stk. Nbr. 94-8001/96-0761.

CR 3. Hydrostatic Test Period

CR A. Determine cylinder serviceability

CR (1) If both "Last Test Date" and "Last Overhaul Date" appear on label, then use "Last Overhaul Date" to determine cylinder serviceability. Ignore test date. The overhaul date must not be over 4 1/2 years when checked at Check C.

CR (2) If no "Last Overhaul Date" appears on label, then use "Last Test Date" to determine cylinder serviceability. The test date (only when overhaul date is not shown) must not be over 4 1/2 years when checked at Check C.

CR PASSENGER PORTABLE OXYGEN CYLINDERS - SERVICING

CR 1. Cylinder Recharging Regulations:

CR A. Prior to recharging, portable oxygen cylinders require performance of a so-called hammer test. The hammer test consists of tapping the cylinder wall lightly with a small hammer and observing the sound of the metallic ring. Clamps and straps on the cylinder should not be removed for the hammer test. A characteristic metallic ring indicates cylinder is not extensively corroded internally and is okay for recharging.

CR 2. Portable Oxygen Recharging Practices

CR A. When a station or shop is recharging or topping-off a passenger portable oxygen cylinder, the following items must be observed:

CR (1) Check last retest date marked on cylinder label. If date is older than 10 years, do not recharge cylinder. Return it to MCI for hydrostatic test. There is no age limit on these cylinders.

CR (2) Clean cylinder and valve parts with clean rag.

CR (3) Fill cylinder slowly with Aviator's Breathing Oxygen to approximately 1950 ± 50 PSI at 70°F cylinder temperature.

CR (4) Check for flow out of each outlet.

CR (5) Assure cylinder valve is in closed position.

CR (6) Remove old recharge label and attach new recharge label properly filled out.

CR (7) Assure the low flow outlet is capped with a grey caplug. The low flow outlet is located to the left of the pressure gage face.

CR (8) Plug in appropriate mask to the high flow outlet located to the right of the pressure gage face. The Scott cylinder should have one TWA Stk. Nbr. 94-8001 mask connected, with its face cone still in its pliofilm stowage bag and the mask attached to the cylinder body with a rubber band. The Zep cylinder which has two masks, TWA Stk. Nbr. 96-0761, within its attached yellow zippered bag should have one hose

CR connected to the high flow outlet. The R&R 12155
CR assembly is not complete unless it is equipped with
CR mask(s) as noted above.

CR (9) Place recharged cylinder in correct shipping box TWA
CR Number 106. Position mask on cylinder so that mask
CR will not be crushed when box lid is closed.

C PORTABLE OXYGEN EQUIPMENT - INSPECTION AND CHECK

C 1. General

CR The following procedure is used to check serviceability of
CR portable oxygen cylinders.

CR 2. Deleted

C 3. Inspection/Check

C A. Portable Oxygen Cylinder

C NOTE: See Chapter Section 35-11-01, Removal and
C Installation, for Preinstallation Odor Check.

CR (1) Check pressure on pressure gage. It should read 1750
CR Min. psi at 70°F. If pressure is less than this value,
CR replace cylinder.

CREW PORTABLE BREATHING OXYGEN CYLINDER - REMOVAL AND INSTALLATION

1. Removal/Installation

   A. Removal

      CAUTION: HANDLE PORTABLE OXYGEN CYLINDER WITH CARE. MAINTAIN A FIRM GRIP WHEN REMOVING FROM, OR INSTALLING IN, STOWED POSITION.

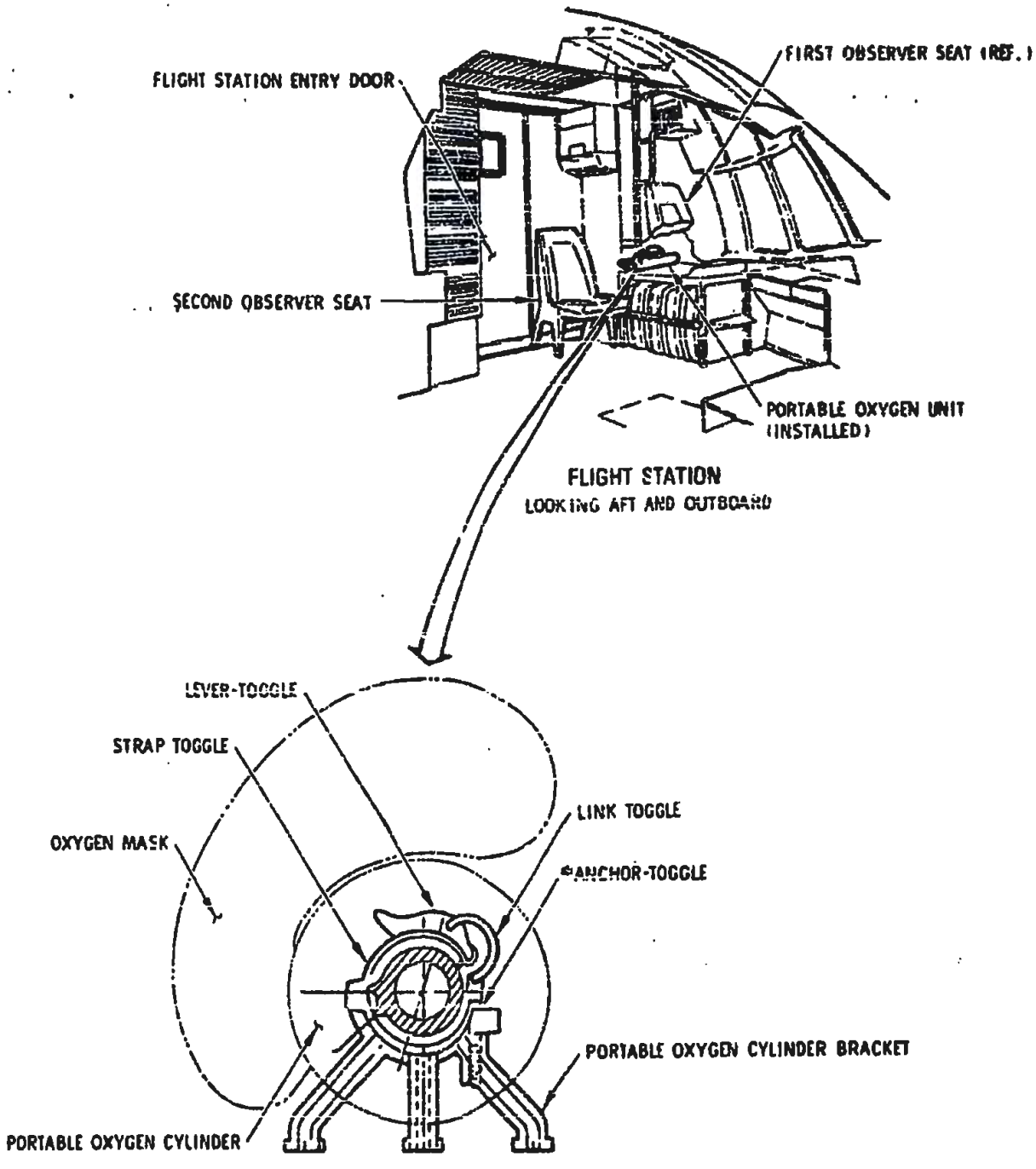
      (1) Release clamp and slide oxygen cylinder out of stowed position, zone 211 (Ref. Fig. 401).

   B. Installation

C NOTE: Perform preinstallation odor check on installation of
C portable oxygen cylinders (Ref. 35-11-01, 401, Fixed
C Breathing Oxygen Cylinder - Removal and Installation
C for procedure).

R WARNING: DO NOT ADJUST CLAMP SO TIGHTLY THAT A CREW MEMBER
R MAY NOT BE ABLE TO SNAP IT OPEN WITH FINGER
R PRESSURE.

      (1) Slide oxygen cylinder into stowed position and secure clamp.



*ADJUSTMENT FEATURE: SCREW (ROTATE) CCW OR CW TO LOOSEN OR TIGHTEN GRIP ON CYLINDER

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R Crew Portable Breathing Oxygen Cylinder - Removal and Installation
R Figure 401

EFFECTIVITY: ALL

CR PROTECTIVE BREATHING EQUIPMENT (PBE) - MAINTENANCE PRACTICES

CR 1. General

CR A PBE is a hood device that cockpit or cabin crew members can
CR wear to protect themselves from smoke and fumes and will provide
CR them a breathable atmosphere while fighting an inflight fire.
CR The PBE is packed in a metal box approximately 2 inches by 13
CR inches by 10 inches in size and saftied in place to prevent
CR unauthorized removal. A number of these PBE's are located
CR throughout the cockpit and cabin area adjacent to most fire
CR extinguishers.

CR NOTE: For exact locations, refer to the latest, applicable
CR emergency equipment diagram, A02367 (L1011-50/-100) or
CR 1-87662 (L1011-1), located on cockpit door.

CR 2. Removal/Installation

CR A. Removal

CR (1) Remove screws holding the PBE box in place.

CR (2) Retain screws for replacement unit.

CR B. Installation

CR (1) Check that red button is not protruding through the
CR hole in the case and that the green security seals are
CR intact.

CR (2) Reinstall new PBE using screws from removed unit.

CR (3) If screws are missing refer to installation DWG.
CR 603064.

CR 3. Inspection/Check

CR NOTE: The manufacturer has designed two convenient features for
CR checking the assembly for vacuum seal integrity and pouch
CR tampering.

CR A. Red Visual Service Indicator

CR (1) A red button is mounted on the PBE pouch. Its purpose
CR is to indicate the status of the pouch vacuum seal. If
CR the vacuum seal is broken, the pouch will inflate
CR slightly causing the red button to protrude through a

C hole in the metal case. This indicates a defective PBE
C and the entire case/pouch assembly (TWA Stk Nbr
CR 94-0753) must be replaced, before further flight.

C B. Green Security Seals

CR (1) There are two green security seals located at mouth of
CR metal box that are connected to box and PBE pouch.
CR Their purpose is to show evidence of tampering with
CR pouch. If either one or both green seals (TWA Stk Nbr
CR 96-9744) are broken, provided red button is not
CR protruding from case, PBE is considered serviceable and
CR seals must be replaced. If seals are not available,
CR maintenance coordinators must be notified for
CR replacement of seals at next TWA maintenance staffed
CR station where parts are available.

CR (2) If the hole in the pouch is broken, a new hole
CR approximately 1/8 inch (3.18 mm) diameter may be
CR punched a minimum of 1/8 inch (3.18 mm) from the old
CR one, being careful not to get into vacuum/heat seal
CR area.